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Designed to reflect the growth in technical education and to fulfill the need for a single source document containing information about that field, this third edition was compiled for those schools now offering technician training, for those planning to offer such training in the near future, and for guidance personnel who counsel young people planning careers as technicians. A nationwide directory of 1,024 institutions offering technician training is arranged by state and lists the total and technician enrollment, the admission requirements, and the available programs for each. Other sections present: (1) current developments in technician education, (2) federal legislative developments relating to technician education, (3) occupational information about the technician including a classification of technical education and technician manpower requirements and supply, (4) case studies for selected technician education programs, (5) articles on issues, problems, and proposals in technician education, and (6) the professional organizations concerned with technician education. A bibliography lists books, pamphlets, and articles containing information on technician education which have been published since 1965. Previous editions of the Yearbook are available as VT 002 407 and VT 003 546. (HC)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Technician
Education
Yearbook

1967-1968

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Technician
Education
Yearbook

Foreword

THE growth in size and interest in technician education since the first TECHNICIAN EDUCATION YEARBOOK was published in 1963 has been nothing short of spectacular. Not only that, but plans and projections for the future indicate that this growth will continue apace for many years to come.

This third edition of the TECHNICIAN EDUCATION YEARBOOK reflects the growth in the field. The increase in the number of institutions offering technician training is shown in the directory in Section 2. This nationwide directory now lists 1024 institutions offering technician training, approximately 46 percent more than the 701 institutions listed in the 1963-64 edition, and 18 percent more than the 866 institutions listed just two years ago. Not only has the number of institutions grown, but the number and variety of curriculums offered by these institutions also has grown. Where in the past many schools offered only one or two technician courses, the current directory shows that the majority of schools offer at least eight or ten curriculums, and some of them list as many as 41.

The information for the directory, which is the only nationwide listing of schools offering technician training, was obtained from replies to more than 1700 questionnaires sent out to schools that were said to offer such training. Names of the schools were obtained from the U. S. Office of Education, Division of Vocational and Technical Education, from officials of state departments of education throughout the country, from information from the American Association of Junior Colleges and the National Association of Trade and Technical Schools, and from leaders in the field. The curriculums listed include the full gamut of the technologies–industrial technologies, agriculture technologies, business-related technologies, civil technologies, electrical-electronic technologies, health-related technologies, and mechanical technologies.

It is, again, with pride that we present this third TECHNICIAN EDUCATION YEARBOOK. It contains, in addition to the only nationwide directory of schools, a directory of federal and state officials of technician education, recent federal legislative developments, occupational information about technicians, a series of articles on issues, problems, and proposals concerning technician education, and new case studies of excellent programs now in operation. (The case studies in the previous editions have proved especially valuable to those planning new technology curriculums.)

This YEARBOOK, as was pointed out in our first edition, was designed to fill the need for a single source book containing information about technician training. Our purpose in this third edition remains the same as it was in the first two editions: to be helpful to those many institutions and people now offering technician training, to present ideas and suggestions for those planning to offer it in the near future, and to give valuable information to guidance counselors so they can intelligently counsel young men and women who are planning careers as technicians.

—The Editors

Acknowledgments

FOR their cooperation, their help, and their encouragement in obtaining and preparing the material for this 1967-68 edition of TECHNICIAN EDUCATION YEARBOOK, we wish to give special recognition to the following persons and organizations:

Staff members of the Division of Vocational and Technical Education, U.S. Office of Education, Washington, D.C., and especially Walter J. Brooking, Alexander C. Ducat, and Robert M. Knoebel, Technical Education Specialists in the Division.

Staff members of the U.S. Department of Labor, Bureau of Labor Statistics, Washington, D.C.

Officials of the various state departments of education.

The various professional organizations in the field.

The many individuals, institutions, and companies serving the field of technician education.

And a blanket acknowledgment of thanks to all others who cooperated with us in getting the information for this book.

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Current Developments in Technician Education

By Walter J. Brooking

Specialist, Technical Education,
Division of Vocational and Technical Education,
U. S. Office of Education,
Washington, D. C.

THE nation's program to educate technicians continues to grow. Its growth is accompanied by challenges and the inevitable problems of rapid expansion of a new capability in public education to meet a national need.

The greatest growth in technician education has been in public community colleges, technical institutes, and area vocational-technical schools. Divisions of some four-year colleges and universities offer courses for technicians. Many high schools offer programs directed toward the preparation of technicians for work or for further technical study. Recent growth is partly due to federal legislation to strengthen programs, a brief review of which follows.

Title VIII of National Defense Education Act

The need to educate highly skilled technicians was first recognized by federal legislation with the passage of Title VIII of the National Defense Education Act of 1958. Under this act, the U.S. Office of Education was directed by Congress to grant funds to the states, matched dollar for dollar, to train highly skilled technicians "necessary for national defense."

Under the act, $47.5 million was granted to the states through 1963, starting with $3.75 million in 1959 and increasing to $15 million in 1963. The programs under the act grew from 262 schools enrolling 48,564 students in 1959, to 881 schools enrolling 221,241 students in 1964. More than half the enrollees were employed adults improving their technical competence in special courses. State and local dollars spent exceeded $2 per federal dollar. The long established federal-state relationship in vocational and technical education was an invaluable aid in the development of programs in the states under Title VIII.

The Vocational Education Act of 1963

Partly because it recognized the growing importance of vocational and technical education, Congress passed the Vocational Education Act of 1963, made permanent the provisions of Title VIII of the National Defense Education Act, continued the Smith-Hughes Act, and provided substantially increased funds to meet the vocational and technical education needs of greater numbers of people of all ages in all communities.

Funds under VEA '63 for the first time provided for construction of facilities, as well as for teacher salaries, libraries, laboratories and equipment, and needed materials and services for vocational and technical programs. The act requires one-to-one matching of federal funds with state and/or local funds. The act removed the restriction of training technicians "for national defense" only, so technicians of all kinds may be educated; those in the physical sciences and related engineering fields, and those in the biological sciences, especially those needed for the medical and health fields and for agricultural occupations. Funds are administered as grants to states by the state boards for vocational education.

Funds appropriated under the act to date are as follows:

APPROPRIATIONS
(in millions)

	1964	1965	1966	1967
Smith-Hughes and George-Barden	$57	57	57	57
Work-Study and Residential Programs	—	5	25	10
Vocational Education Act of 1963*	—	118	177	208
Total appropriations	$57	180	259	275

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*Including allotments for special grants for research and training programs by the *U. S. Commissioner of Education* 11.8 17.8 10.0

While $60 million was authorized under the Vocational Education Act of 1963 for 1964, no appropriations were made that year. Total authorization under all the acts mentioned was $317 million in 1967, and is the same for 1968. Appropriations have not yet been made for 1968 at this writing.

Congress also enacted the Higher Education Facilities Act of 1963, authorizing $1.2 billion for construction of facilities for public and nonprofit private colleges. Twenty-two percent of these funds were earmarked for construction of facilities for public community colleges and technical institutes which meet the requirements of the act. Such institutions are eligible for federal funds amounting to 40 percent of the state expenditure, while other institutions qualifying under the act are entitled to federal shares of up to one-third. This clearly indicates the importance attached by the Congress to improving facilities in institutions to train highly skilled technicians.

U.S. Office of Education Developments

In 1966 the U.S. Office of Education reorganized to meet its increased responsibilities for adult and occupational education. A recent change which will be of interest to educators of technicians is the formation of the Bureau of Adult, Vocational, and Library Programs, directed by Grant Venn, Associate Commissioner. It includes four divisions: Adult Education Programs, Manpower Development and Training, Library Services and Facilities, and Vocational and Technical Education.

The Division of Vocational and Technical Education is responsible for the administration of technical-education programs with specialists in the State Vocational Services Branch.

Regional offices were established and are being staffed to provide more and more of the services of the U.S. Office of Education to the states within the regions. The regional offices are located in Boston (Region I), New York City (Region II), Charlottesville, Va. (Region III), Atlanta (Region IV), Chicago (Region V), Kansas City, Mo. (Region VI), Dallas (Region VII), Denver (Region VIII), and San Francisco (Region IX).

With federal support, educational research has been consolidated in the new Bureau of Educational Research in the U.S. Office of Education. Recognizing that sponsoring research on educational problems is only part of the job, the Bureau of Educational Research has assumed the responsibility for transmitting the findings to educators and administrators. To achieve this objective, the Office of Education has developed the Educational Resources Information Center—ERIC. It is the first nationwide, comprehensive information system designed to serve American education.

The central office is responsible for making available to the public the findings of research supported by the Office of Education through the Bureau of Research. ERIC also currently includes 18 decentralized clearinghouses, each focused on a separate subject-matter area, and several contractors who provide specialized services.

The address for the central office of ERIC is:

Central ERIC
Bureau of Research
U.S. Office of Education
Washington, D. C. 20202

The clearinghouse for vocational and technical education from which titles, abstracts, and reports of research may be obtained is located at Ohio State

University and is headed by Robert E. Taylor. Its address:

ERIC Clearinghouse on Vocational
and Technical Education
Ohio State University
980 Kinnear Road
Columbus, Ohio 43212

Program Growth 1964-1966

A report on growth and development of new programs for technicians must stress that to start a new program in an institution is a major undertaking. It usually takes a minimum of five years and many thousands of dollars to plan the program, assemble and orient the staff, equip facilities, and graduate the first class or two. When these graduates are successfully employed and confidently advertising their success to their peers and parents, the program is well started. Thus, when an institution reports a new program, it is a statement of a task begun, but with much refinement and development still to be done. It is in this context that the developments in technician education must be discussed. The following is based on information provided to the U.S. Office of Education by the states.

Public institutions offering post-high-school technician training with federal support increased from 440 in 1964 to 538 in 1966. Since 16 institutions reporting in 1964 redirected or discontinued programs, a net total of 114 institutions embarked on technician training for the first time during the 1964-65 and 1965-66 fiscal years.

The number of technican programs offered by the 538 institutions in 1966 totaled 1,493, as compared to the 1964 total of 1,013. Ten programs reported in 1964 were discontinued or redirected, making a total of 490 new programs started in two years. These figures do not include the 30 institutions offering a total of 95 programs in New York State in fiscal year 1966, most of which were operative but which were not reported in 1964, but which are now financed in some measure by federal vocational-education funds.

High schools offering technician programs increased to 352 in 1966, a growth of 57 schools since 1964. Programs in those schools increased to 449 in 1966, a growth of 108 programs over 1964.

The emerging trend appears to be for the states to provide technical instruction in high schools as the beginning of a continuum for those students who expect to specialize as technicians in two-year post-high-school programs, and also to provide training for other students who expect to seek employment immediately on graduation from high school.

Enrolments in technician programs increased 12.5 percent in fiscal year 1966. Of the total of 257,973 persons enrolled, 104,421 were in two-year post-high-school programs, 28,853 were in high schools, and 124,629 were adults taking special work-related or supplementary courses.

The programs were mainly in the engineering-related technologies; however, the broader support of VEA '63 resulted in the development of programs in the medical and health fields and in the agricultural occupations.

In Louisiana, one of the most successful extension programs in electronics offered by Jefferson Parish School was for the medical profession. The course for physicians and laboratory technicians taught basic electronics applied to electronic instruments in hospitals. In Florida, six junior colleges reported 299 students enrolled in two-year curriculums in Dental Hygiene, Medical Laboratory, Radiological Technology, Medical Parisitology, and Medical Nematology.

New programs reported in 1966 included Dental Laboratory, X-ray Technology, Biological Laboratory Assistant, Food Processing, Agriculture-Business, Poultry and Livestock, Soil Conservation, Agriculture Equipment, Forestry, Horticulture, Mortuary Science, Police Science, Technical Illustration, Marine Technology, Fluid Power, Graphics Technology, Urban Planning Assistant, Water and Wastewater Technology, Petroleum Technology, Textile Technology, and Numerical Programing.

A major effect of VEA '63 has been expansion of facilities for training both technicians and employed adults at the technical level. In fiscal year 1965, total expenditures for new and remodeled facilities exceeded $107 million. New construction included 23 special high schools, 46 vocational and technical schools, 39 departments of high schools, and 36 departments of higher education. Remodeling projects included four special high schools, 30 vocational and technical schools, 23 departments of high schools, and seven departments of higher education. Projected building construction in the states for fiscal 1966 included 200 new construction projects and 85 remodeling jobs costing approximately $132 million. State and local funds overmatched federal funds by approximately $2 to $1.

While all new training facilities built or in process during the past two years are not solely for training highly skilled technicians, increased enrolments in technical-education programs should be reflected as additional facilities are built and staffed.

Information from the states indicates that the 1964-1966 rate of growth of new institutions and of new programs will persist in the future.

The Administrative and Staffing Problem

There are important implications in an increase of more than 50 institutions starting their first technician programs, and nearly 250 new programs started each year. One of the biggest problems is in administration and staffing.

When 50 institutions report having started their first technician program, they have already arranged the financing, planning, building, staffing, and equipping of the program, and have recruited the first class of students and instructed them for the first year. One year and usually two or three have already been spent in development of a program which is a totally new objective of the institution. This is a major administrative task for each of the 50 institutions, especially since there is a shortage of experienced and qualified technician-education administrators and technical instructors.

To start each new program usually requires the employment of a technically competent department head to lead in curriculum development, staff selection and training, advisory committee relationships, student selection, and instruction. At least two technical specialty instructors and the equivalent of two science, mathematics, communications skills, or social science instructors are required if enrolment is large enough to make the program economically and administrably effective. All such staff are in short supply.

For example, this special provision was a key factor in the conduct of eight summer institutes in 1965 at seven widely deployed sites which made major contributions to teacher training in such areas as technical communications, instrumentation, and electronic data processing. In 1966, these programs grew to 14 in number and branched out to include such additional fields as fluid power, numerical control, and pretechnical training. Although a curtailment of funds reduced the roster of 1967 institutes to five, the focus of instruction was on such vital areas as computerized drafting and technical-education leadership.

At the same time, there have been significant benefits derived from the National Science Foundation program encompassing special summer institutes for junior-college and technical-institute teachers. Among the 1967 offerings covered by this program were electronics and machine design, materials design and technology, and aerospace mechanics.

In addition, many state departments of education, cooperating with colleges and universities, are providing workshops, institutes, curriculum and program development studies, and other courses to develop instructional staff. Much needs to be done, because the instructional competence determines, in large measure, the ultimate quality of programs.

The Student Recruitment Problem

Recruitment of qualified students is a major problem in the development of technical-education programs. The academic requirements to enter a high quality technical program are practically the same as for the baccalaureate science or engineering students. The number of qualified high-school graduates who want to become engineers, scientists, or technicians is not sufficient to satisfy the needs of all categories. All who aspire to the baccalaureate program should be encouraged to do so. It is, therefore, becoming evident that the future of many technical programs, and indeed the capability to satisfy the needs of the nation for highly skilled technicians, will depend on the development of programs for promising youth after high school who have the desire but lack the scholastic preparation to enter high quality technical programs.

The foregoing are the usual requirements for a new full-time preparatory two-year technician program, and does not provide for administrative or instructional services required for special work-related courses for employed adults, which have accounted for approximately half of the total enrolment in technical-education programs in public institutions.

When an institution becomes established as a technical-education center in the community it usually becomes increasingly useful for it to offer special courses for employed adults. Changing technology and work patterns in today's employment require more and more specialized training or retraining of the employed work force.

In summary, to start approximately 250 new technician programs each year (including more than 50 in institutions which have never before taught technicians) involves staff recruitment and in-service orientation and training of up to 1,250 specialized professional personnel. To have accomplished it in 1965 and in 1966 is a measure of the progress in the nation's total program. However, it implies there is much to be done in staff orientation and training toward the goals of high quality in all those new programs.

Institutions offering technical programs are continually involved in development by staff meetings, extension courses, workshops, seminars, and other study. Moreover, Section 4(c) of VEA '63 has served to provide substantial encouragement to colleges and universities in the conduct of technical-teacher training ventures.

Pretechnical Programs

An increasing number of institutions offering programs for technicians provide organized pretechnical programs up to a full academic year to give promising but underprepared students the opportunity to enter a technical program of their choice with a good probability of successfully completing it. A pretechnical program helps to solve student recruitment problems, provides insurance for the high quality of graduates by starting with adequately prepared students, and gives promising students an opportunity to educate themselves to be technicians.

The U.S. Office of Education, Division of Vocational and Technical Education, is preparing to publish a suggested guide to such programs based on the experience of exemplary programs now in operation. This may be supported under VEA '63.

Establishment of pretechnical programs recognizes that in many localities there is a large population of *potential* technical students who are available to enter technical programs, but do not have all the required scholastic preparation. This "other population" is comprised of promising young people who demonstrate a high probability to succeed in technical programs. Examples of such students are:

A. High-school graduates who score above average in scholastic tests but who have not studied the required mathematics or science subjects.

B. High-school graduates with high motivation toward mechanical or scientific activities (ham radios, photography, hot-rod automobiles, or similar hobbies) who, because of a consuming interest in these activities, have neglected to concentrate on their language, mathematics, or organized science.

C. Those who graduate from high school with *average or better* grades or leave high school near graduation to enter employment or the armed services, and who wish to return for full-time preparation to become technicians but who have not studied the required mathematics or science courses.

D. Students whose outside work or other interests in high school interfered with their studies, especially in mathematics and/or science.

The common need of students in all four of the foregoing groups is to strengthen their mathematics, science, and language skills, or their basic study skills.

Experience has shown that programs after high school which are aimed at providing the remedial courses necessary to enter high quality technical curriculums should be provided *in the institution which teaches the technical program.* Institutions which specialize in providing technical education can best design these preparatory course programs so they can meet the objectives of their students to enter a rigorous technician program, and can simultaneously start them in some of the laboratory courses of their chosen technology which are not heavily dependent on scientific theory or advanced mathematics.

Reports from the states show that there will be an increasing number of these pretechnical programs started as time progresses. They will be especially pertinent to the needs of the many veterans who will be returning from military service in the next few years; and these programs will be needed if the student recruitment problem is to be be solved.

Other Significant Developments

There are several developments which promise to have an important effect on the nation's total program to educate technicians. They reflect the vigorous and imaginative leadership that has characterized the private institutions which have served technical education so well, the public institutions in the field, and the interest of employers and nonprofit private foundations. They include:

- The American Association of Junior Colleges received grants of nearly $1.5 million from the W.K. Kellogg Foundation, enabling the association to engage in a national effort to provide leadership in developing college grade programs to prepare men and women for technical and semiprofessional education related to engineering, the health fields, and business. The headquarters staff of the association is being expanded to strengthen its services.
- Cooperative efforts in research have produced several significant developments. One example is a National Science Foundation grant to Wentworth Institute for the development of a new and highly refined electronic technician curriculum.
- Of perhaps greater significance is the grant by the Ford Foundation to Wentworth Institute in the amount of $500,000 to establish a center for the development of engineering technology curriculums geared to the fast changing needs of modern industries.
- The cooperative support of a national center for fluid power instruction at Milwaukee School of Engineering has seen the Fluid Power Association launch into aggressive partnership in an important educational program.
- A research project financed cooperatively by a grant from the U.S. Office of Education, Bureau of Research, involves a consortium comprised of six educational institutions and seven or more corporate representatives of the computer and business equipment industry undertaking "an analysis of needs and requirements for training electromechanical technicians in the specific area of computers and business machine technology."
- Under a grant from the U.S. Office of Education, the American Technical Education Association recently conducted a project entitled *The Development and Testing of Instruments and Procedures for a Study of Student Selection Practices in Technical Education Programs.* The investigator was George Whitney, chairman of the Engineering Technology Division at State University Agricultural and Technical College, Alfred, N. Y.
- A research project of potential significance in the field of electromechanical technology has been completed through the first phase by the School of Industrial Education at Oklahoma State University, under the direction of OSU's Maurice W. Roney and assisted by an extensive advisory committee of employers and technical educators.

These developments in the field of technician education are examples of the thrust of organized and cooperative effort which characterizes the leadership of the entire field of technical education. Much progress has been made, but the challenges are greater than ever.

(EDITOR'S NOTE: The foregoing article is based on a paper presented by Mr. Brooking at the June 1967 conference of the American Society for Engineering Education at Michigan State University, East Lansing.)

Directory of Institutions Offering Technician Training

THIS directory of schools, colleges, and other institutions offering technician training has been compiled with the help of state directors of technical and vocational education, the Technical Education Division of the U.S. Office of Education, the American Association of Junior Colleges, the National Association of Trade and Technical Schools, and the individual institutions involved.

Since the field is growing rapidly with some wide variations in definitions of technician training, there undoubtedly are omissions of schools that should be included and inclusions of other schools about which there may be questions as to whether they are offering strictly technician-training courses or other, but similar, types of courses.

In all cases, the data in the listing were obtained from questionnaires returned by the institutions themselves. The administrators of the schools indicated the names and types of curriculums and courses offered, and, normally, the administrator's listings were accepted.

The technician curriculums listed without any identification mark following are preparatory curriculums (usually two years in length and requiring full-time attendance). An asterisk (*) following the listing indicates that the course is offered as an extension program (usually of varying lengths of time and requiring only part-time attendance). Two asterisks (**) indicates that the subject is offered both as a preparatory curriculum and as an extension course. A dagger (†) indicates that the curriculum has been approved by the Engineers' Council for Professional Development (ECPD).

Abbreviations used in the listings:

Accreditation Associations

ASCP—American Society of Clinical Pathologists
FAA—Federal Aviation Agency
MSA—Middle States Association of Colleges and Secondary Schools
NATTS—National Association of Trade and Technical Schools
NCA—North Central Association of Colleges and Secondary Schools
NCTS—National Council of Technical Schools
NEA—New England Association of Colleges and Secondary Schools
NHSC—National Home Study Council
NWA—Northwest Association of Secondary and Higher Schools
SA—Southern Association of Colleges and Schools
WA—Western Association of Colleges and Schools

Other Abbreviations

ACT—American College Testing
CEEB—College Entrance Examination Board
GATB—General Aptitude Test Battery
GEDT—General Educational Development Test
SAT—Scholastic Aptitude Test
SCAT—School and College Ability Test
ad. ed.—adult education
adm.—administrator
chm.—chairman
coord.—coordinator
dir.—director
ind. ed.—industrial education
instruc.—instruction
pres.—president
prin.—principal
supv.—supervisor
tech. ed.—technician education
voc. ed.—vocational education

ALABAMA

ALABAMA AGRICULTURAL AND MECHANICAL COLLEGE, Normal 35762
Public. R. D. Morrison, pres.
W. H. Hollins, chm., tech. ed.
Total enrolment: 1,774
Technician enrolment: 76
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation or equivalent with at least a C average; ACT or SAT test scores
Electronics technology, drafting technology

ALABAMA INSTITUTE OF AVIATION TECHNOLOGY, 1439 S. Union Ave., Ozark
Public. Troy Tallis, dir.
Technician enrolment: 12
Admission: High-school graduation
Aircraft technology

ALABAMA SCHOOL OF TRADES, 1001 E. Broad St., Gadsden
Public. E. L. Darden, dir.
Total enrolment: 450
Technician enrolment: 110
Accreditation: State Ed. Dept.
Admission: Well screened—varies with difficulty of the course
Airconditioning and heating technology, civil technology, drafting technology, architectural drafting technology, electrical technology, electronics technology, industrial electronic technology, drafting and tool design, machine drafting and design, machine tool technology, mechanical design technology, mechanical technology, printing and photoengraving technology, welding technology

BESSEMER STATE TECHNICAL INSTITUTE, P. O. Box 308, Bessemer 35020
Public. Otto B. Smith, dir.
Merton Von Stephens, supv., tech. ed.
Total enrolment: 530
Technician enrolment: 136
Accreditation: State Ed. Dept.
Admission: High-school graduate with one year of math and one year of science
Data processing technology**, architectural drafting technology**, architectural engineering technology**, highway technology**, structural engineering and design technology**, electrical technology**, electronic communications technology**, industrial electronic technology**, dental technology, chemical technology**, instrumentation technology**, metallurgical technology**, airconditioning, heating, and refrigeration technology**, drafting technology**, machine tool technology**, mechanical drafting technology**, mechanical technology**

CALHOUN COUNTY VOCATIONAL-TECHNICAL School, P. O. Box 193, Jacksonville
Public. A. B. Garmon, supv.
Technician enrolment: 11
Admission: High-school graduation
Electronics**

CARVER STATE TECHNICAL TRADE SCHOOL, P. O. Box 7175, Mobile 36607
Public. A. L. Green, dir.
Total enrolment: 212
Technician enrolment: 24
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Electronics technology

CHAUNCEY SPARKS STATE TRADE SCHOOL, Eufaula 36027
Public. O. T. Smith, dir.
Total enrolment: 150
Technician enrolment: 50
Accreditation: State Ed. Dept.
Admission: 16 yrs. old, courses vary in requirements
Electrical technology, electronics technology, instrumentation technology, airconditioning, heating, and refrigeration technology, automotive technology, mechanical drafting technology

DOUGLAS MACARTHUR STATE TRADE SCHOOL, Opp 36467
Public. E. C. Nevin, dir.
Total enrolment: 200
Technician enrolment: 105
Admission: High-school graduates preferred. Non-graduates, 16 yrs. old or over, accepted in some courses
Data processing technology, architectural drafting technology, electrical technology, electronics technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, mechanical drafting technology

GADSDEN STATE JUNIOR COLLEGE, George Wallace Dr., Gadsden 35903
Public. Allan D. Naylor, pres.
Charles D. Bolling, tech. ed. chm.
Total enrolment: 1,700
Technician enrolment: 150
Accreditation: State Ed. Dept.
Admission: High-school graduation
Data processing technology, architectural drafting technology, architectural engineering technology, electronics technology, medical laboratory technology

GEORGE C. WALLACE TECHNICAL TRADE SCHOOL, Napier Field, Dothan
Public. George H. Grimsley, dir.
Total enrolment: 300
Accreditation: State Ed. Dept.
Admission: 16 yrs. old, good recommendation, capable of making progress in course selected
Automotive technology, drafting technology, electronics technology, optical laboratory technology

JEFFERSON COUNTY VOCATIONAL SCHOOL, 1318 Alabama St., Tarrant 35217
Public. Murry C. Gregg, dir.
Total enrolment: 710
Accreditation: State Ed. Dept.
Admission: 14 yrs. old
Architectural drafting technology**, electrical technology**, electro-mechanical drafting technology**, electronic communications technology**, electronic drafting technology**, electronics technology**, industrial electronic technology**, airconditioning, heating, and refrigeration technology**, automotive technology**, drafting technology**, industrial drafting and design technology**, machine tool technology**, mechanical drafting technology**

JEFFERSON STATE JUNIOR COLLEGE, 2601 Carson Rd., Birmingham 35215
Public. LeRoy Brown, pres.
James L. Moncrief, dean
Admission: High-school graduation or GEDT
Data processing technology, architectural drafting technology, medical laboratory technology, nursing, X-ray technology, mental health technology

JOHN C. CALHOUN STATE TECHNICAL JUNIOR COLLEGE AND TECHNICAL SCHOOL, P. O. Box 548, Decatur
Public. Jack E. Campbell, dir.
Total enrolment: 1,800
Technician enrolment: 800
Accreditation: State Ed. Dept.
Admission: High-school graduation for Junior College, varies according to program in technical school
Data processing technology, architectural drafting technology, architectural engineering technology, civil technology, structural engineering and design technology, electronics technology, medical laboratory technology, nursing, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, drafting technology, machine tool technology

JOHN M. PATTERSON STATE VOCATIONAL TECHNICAL SCHOOL, P. O. Box 6199, Montgomery
Public. J. O. McCollough, dir.
Total enrolment: 284
Technician enrolment: 90
Accreditation: State Ed. Dept.
Admission: High-school graduation or aptitude test administered by State Employment Service

Computer technology, electronics technology, nursing, mechanical drafting technology

Murphy High School, 100 S. Corlen St., Mobile
Public. R. B. Taylor, prin.
Total enrolment: 3,000
Technician enrolment: 300
Accreditation: SA
Admission: 16 yrs. old, able to succeed in occupation
Architectural drafting technology, building construction technology, electrical technology, dental technology, health technology, medical laboratory technology, medical records technology, medical technology, X-ray technology, automotive technology, drafting technology, industrial drafting and design technology, machine tool technology

Northeast State Junior College, P. O. Box 121, Rainsville 35986
Public. E. R. Knox, pres.
Total enrolment: 814
Technician enrolment: 48
Accreditation: State Ed. Dept.
Admission: High-school graduation
Data processing technology, architectural engineering technology

Opelika State Vocational Technical Institute, 1701 LaFayette Pkwy., Opelika 36801
Public. D. L. Haynes, dir.
R. J. Chandler, asst. dir.
Total enrolment: 500
Technician enrolment: 175
Accreditation: State Ed. Dept.
Admission: High-school graduation, at least 16 yrs. old
Data processing technology, architectural drafting technology, computer technology, electrical technology, electronics technology, textile engineering technology, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology, machine tool technology, mechanical technology

Shelton State Vocational Technical School, Drawer J, East Side Station, Tuscaloosa
Public. H. I. James, dir.
Total enrolment: 300
Technician enrolment: 36
Accreditation: State Ed. Dept.
Admission: High-school graduation with math and science
Electronic data processing technology, electronics technology

Southwest State Technical Institute, 925 Dauphin Island Pkwy., Mobile 36605
Public. Clay Knight, dir.
Total enrolment: 673
Technician enrolment: 141
Admission: High-school graduation
Data processing technology, electronics technology, design technology, drafting technology

Tennessee Valley State Technical Junior College, P. O. Box 337, Decatur
Public. Carlton Kelley, pres.
Accreditation: State Ed. Dept.
Data processing technology, architectural drafting technology, architectural engineering technology, building construction technology, civil technology, highway technology, electrical technology, electronic communications technology, nursing, engineering science technology, instrumentation technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, design technology, drafting technology, machine tool technology, mechanical and production engineering technology

United Electronics Institute, 2717 7th Ave., So., Birmingham
Home office: 3947 Park Dr., Louisville, Kentucky
Private: W. L. Rector, pres.
Total enrolment: 5,796
Technician enrolment: 5,796
Electronics technology**

Walker County High School, 1600 Highland Ave., Jasper
Public. Geddes Self, prin.
Total enrolment: 988
Technician enrolment: 81
Accreditation: SA
Electronics technology

William Lowndes Yancey State Junior College, P. O. Box 880, Bay Minette 36507
Public. Larry Purdy, dir.
David Christensen, tech. ed. chm.
Total enrolment: 684
Technician enrolment: 391
Admission: High-school graduation
Data processing technology, architectural drafting technology, drafting technology

ALASKA

Anchorage Community College, 1700 Hillcrest Dr., Anchorage 99503
Public. Eugene Short, dir.
William R. Krager, voc. supv.
Total enrolment: 1,800
Technician enrolment: 800
Accreditation: NWA
Admission: High-school graduation or 19 yrs. old
Data processing technology*, architectural drafting technology*, building construction technology*, construction technology*, highway technology*, structural engineering and design technology*, surveying technology*, aviation electronics technology, computer technology*, electronics technology**, nursing, metallurgical technology*, airconditioning, heating, and refrigeration technology*, automotive technology*, combustion power technology*, aviation technology*, drafting technology*, police science

ARIZONA

Arizona Western College, Yuma 85364
Public. John B. Barnes, pres.
Marshall G. Holman, chm., tech. div.
Total enrolment: 1,333
Technician enrolment: 183
Accreditation: University of Arizona
Admission: High-school graduation; GEDT; restrictions of technical programs—cut off points on the ACT—math placement test
Agri-business technology, data processing technology, civil technology, surveying technology, electronics technology, automotive technology, drafting technology, welding technology

Cochise College, Douglas 85607
Public. Jack Netcher, pres.
Admission: High-school graduation or 19 yrs. old
Soils technology, architectural drafting technology*, civil technology**, highway technology*, surveying technology*, electronic drafting technology*, electronics technology*, medical records technology, aviation technology, design technology*, drafting technology**, mechanical drafting technology*

Eastern Arizona College, Thatcher 85552
Public. Dean A. Curtis, pres.
Edwin R. Sorensen, dean, tech. ed.
Total enrolment: 950
Technician enrolment: 110
Accreditation: NCA
Admission: High-school graduation
Agri-business technology, data processing technology, architectural drafting technology*, electro-mechanical drafting technology*, electronic drafting technology*, electronics technology, automotive technology, drafting technology, industrial technology, mechanical and production engineering technology

Glendale Community College, 6000 W. Olive, Glendale 85301
Public. John F. Prince, dean

Carl E. Squires, chm., tech. div.
Total enrolment: 2,500
Technician enrolment: 100
Accreditation: NCA
Admission: High-school graduation or adult
Agri-business technology, electronics technology, nursing, drafting technology

MARICOPA COUNTY JUNIOR COLLEGE DISTRICT, 300 E. Camelback Rd., Phoenix 85012
Public. Robert J. Hannelly, pres.
Irwin L. Spector, dir.
Total enrolment: 10,966
Technician enrolment: 2,004
Accreditation: NCA
Admission: High-school graduation or 19 yrs. old, GED certificate or equivalent
Agri-business technology, agricultural engineering technology, data processing technology, architectural drafting technology, civil technology, surveying technology*, computer technology, commercial broadcast technology, electro-mechanical drafting technology, electronic drafting technology, electronics technology, medical records technology, nursing, drafting technology, fire-protection technology

MESA HIGH SCHOOL, Mesa
Public. R. A. Kilbourne, prin.
Total enrolment: 2,100
Technician enrolment: 24
Accreditation: NCA
Electronics technology*

NORTHERN ARIZONA UNIVERSITY, Flagstaff 86001
Public. J. Lawrence Walkup, pres.
Chester B. Ainsworth, dean of technology
Total enrolment: 6,000
Technician enrolment: 300
Accreditation: NCA
Admission: Upper ⅔ of high-school graduating class or by examination
Data processing technology, architectural drafting technology, civil technology, surveying technology, electronics technology, engineering science technology, design technology, drafting technology, industrial drafting and design techology, mechanical technology

PHOENIX COLLEGE, 1202 W. Thomas Rd., Phoenix 85013
Public. J. Lee Thompson, dean
Total enrolment: 4,875
Technician enrolment: 800
Accreditation: NCA
Admission: GEDT, high-school graduation
Data processing technology, architectural drafting technology, architectural engineering technology, civil technology, commercial broadcast technology, electronic communications technology, electronic drafting technology, electronics technology, dental technology, medical records technology, nursing, drafting technology, fire-protection technology, food-processing technology, police science

PHOENIX UNION HIGH SCHOOL, 512 E. Van Buren, Phoenix
Public. R. E. McCullar, prin.
Total enrolment: 5,306
Technician enrolment: 143
Accreditation: NCA
Admission: High-school graduation or equivalent, also open to some 12th grade students with aptitudes for a desired offering
Airconditioning and heating technology, drafting technology, electro-mechanical technology, drafting and tool design

ARKANSAS

ARKANSAS VOCATIONAL TECHNICAL SCHOOL, 2220 W. 18th, Pine Bluff
Public. L. Coker, prin.
Total enrolment: 567
Technician enrolment: 253
Admission: 16 yrs. or older, high-school graduation preferred
Automotive technology, drafting technology, architectural drafting technology, electronics technology, industrial electronic technology, electrical technology, electronic communications technology, fluid power (engineering) technology*, hydraulics technology*, mechanical drafting technology**, mechanical technology, welding technology

EL DORADO CITY SCHOOL, El Dorado 71730
Public. W. D. Tommey, supt.
J. D. Carelock, voc. supv.
Total enrolment: 2,100
Technician enrolment: 210
Accreditation: NCA
Electrical technology*, nursing*, airconditioning, heating, and refrigeration technology, pneumatic controls instrumentation*, carpenter technology*

FAYETTEVILLE SENIOR HIGH SCHOOL, Fayetteville 72701
Public. William H. Duncan, prin.
Jerrell Terrell, tech. ed. chm.
Total enrolment: 1,130
Technician enrolment: 170
Accreditation: NCA
Dental technology, airconditioning, heating and refrigeration technology, automotive technology, drafting technology, machine tool technology, welding technology

JONESBORO SENIOR HIGH SCHOOL, 301 Hurricane Dr., Jonesboro
Public. R. L. Bradbury, prin.
Total enrolment: 895
Technician enrolment: 79
Accreditation: NCA
Admission: Aptitude and intelligence
Electronics technology, automotive technology, machine tool technology, mechanical drafting technology

LITTLE ROCK UNIVERSITY, 33rd and University Ave., Little Rock
Private: C. V. Stabler, pres.
Total enrolment: 3,238
Technician enrolment: 300
Accreditation: NCA
Admission: High-school graduation with satisfactory ACT scores, adults considered without graduation—GEDT acceptable
Architectural drafting technology, architectural engineering technology, civil technology, surveying technology, medical laboratory technology, medical technology, nursing, drafting technology

METROPOLITAN HIGH SCHOOL, 7701 Scott Hamilton Dr., Little Rock 72206
Public. Leonard Thalmueller, prin.
Ernest L. Rush, dir. of ind. ed.
Total enrolment: 850
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: Must possess a mechanical aptitude
Architectural drafting technology, construction technology, electrical technology**, medical technology, graphic arts technology, lithographic technology, airconditioning, heating, and refrigeration technology, automotive technology**, drafting technology**, machine tool technology**

PHILLIPS COUNTY COMMUNITY COLLEGE, Box 785, Helena 72342
Public. Ronald L. Griffith, dir., voc-tech. dept.
Total enrolment: 250
Technician enrolment: 16
Admission: High-school graduation
Data processing technology**, electronics technology**, nursing, drafting technology**

PINES VOC-TECH SCHOOL, 2220 W. 18th, Pine Bluff 71601
Public. Leon Coke, dir.
Sherrill Halbrook, asst. dir.
Total enrolment: 613
Technician enrolment: 135
Admission: 16 yrs. old; high-school graduation in tech. courses
Architectural drafting technology, construction technology, electronic com-

munications technology**, industrial electronic technology**, nursing**, automotive technology, drafting technology**, machine tool technology, welding**, diesel and farm equipment

Westark Junior College Technical Division, 5210 Grand Ave.,
Fort Smith 72901
Public. E. T. Vines, pres.
Leo E. Olsen, dir.
Total enrolment: 1,600
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: High-school graduation
Electronic communications technology*, electronics technology*, automotive technology*, drafting technology*, machine tool technology*, mechanical drafting technology*, sheetmetal fabrication*, welding*

CALIFORNIA

Adult Occupational Training Center,
6200 Winnetka Ave.,
Woodland Hills 91364
Public. Calvin Dellefield, prin.
Total enrolment: 4,567
Technician enrolment: 4,214
Accreditation: State Ed. Dept.
Admission: At least 18 yrs. old
Electronic drafting technology*, graphic arts technology*, airconditioning, heating, and refrigeration technology*, automotive technology*

Allan Hancock College,
800 S. College Dr., Santa Maria 93454
Public. Walter Conrad, pres.
Ray H. Mills, coord. voc. ed.
Total enrolment: 4,200
Accreditation: WA
Agri-business technology*, commercial design technology*, data processing technology*, architectural drafting technology, architectural engineering technology, building construction technology, civil technology, surveying technology, electrical technology, electronic communications technology, electronics technology, industrial electronic technology, dental technology, health technology, medical laboratory technology, nursing, X-ray technology, ceramic technology*, engineering science technology, airconditioning, heating, and refrigeration technology†, automotive technology, combustion power technology, internal combustion (engineering) technology, industrial drafting and design technology, machine tool technology, fire-protection technology, law enforcement

American River College, 4700 College Oak Dr., Sacramento 95841
Public. Kenneth D. Boettcher, pres.
Louis Quint, coord. voc. ed.
Total enrolment: 9,531
Technician enrolment: 1,268
Accreditation: WA, State Ed. Dept.
Admission: High-school graduation or over 18 with demonstrated ability
Agri-business technology, data processing technology, surveying technology, electronic communications technology, industrial electronic technology, drafting technology, fire-protection technology

Anaheim Evening High School, 213 N. Citron, Anaheim 92806
Public. Donald L. Bordsen, prin.
Total enrolment: 10,185
Technician enrolment: 425
Accreditation: State Ed. Dept.
Admission: Age, industrial background, and approval of instructors
Data processing technology, publications technology, computer technology, industrial electronic technology, ceramic technology, graphic arts technology, lithographic technology, automotive technology, drafting technology, machine tool technology, mechanical and production engineering technology, mechanical technology

Antelope Valley College,
3041 West Ave. K, Lancaster 93534
Public. James M. Starr, pres.-supt.
Robert W. Lundak, dean
Total enrolment: 2,616
Technician enrolment: 1,314
Accreditation: WA, State Ed. Dept.
Admission: High-school graduation, satisfactory score on placement test
Soils technology, data processing technology, architectural drafting technology, architectural engineering technology, surveying technology, computer technology, electronic communications technology, automotive technology, fire-protection technology, welding technology

Bakersfield College,
1801 Panorama Dr., Bakersfield 93305
Public. Edward Simonsen, pres.
Total enrolment: 8,347
Technician enrolment: 820
Accreditation: WA
Admission: California high-school graduation; out of state: individual basis, C+ average in high school
Soils technology, data processing technology, architectural drafting technology, electrical technology, electronic communications technology, electronics technology, industrial electronic technology, microminiaturization technology, nursing, automotive technology, drafting technology, industrial technology, mechanical technology

Barstow College,
2700 Barstow Rd., Barstow
Public. L. E. Wilbur, pres.
Total enrolment: 900
Accreditation: WA
Admission: High-school graduation or 18 yrs. old
Electronic data processing technology, architectural drafting technology, electronics technology, industrial technology, architectural engineering technology, surveying technology, electrical technology, electro-mechanical drafting technology, electro-mechanical technology, electronic communications technology, chemical technology, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology, industrial technology, mechanical drafting technology

Belmont Adult School, Los Angeles
Public. E. R. Harper, prin.
Total enrolment: 10,000
Technician enrolment: 3,000
Accreditation: U. of Calif.
Admission: Open to adults (18 yrs. or older)
Electronic data processing technology, drafting technology, architectural drafting technology, building construction technology, computer technology, solid-state devices technology

Burbank Evening High School, Burbank
Public. C. H. Read, dir. of ad. ed.
Total enrolment: 5,500
Technician enrolment: 1,200
Accreditation: State Ed. Dept.
Admission: Standard state requirements
Automotive technology*, aeronautical technology*, electronic data processing technology*, drafting technology*, electrical technology*, electronics technology*, industrial electronic technology*, drafting and tool design*, machine tool technology*

Cabrillo College, 6500 Soquel Dr., Aptos
Public. F. L. Younger, asst. supt. of instr.
Total enrolment: 3,100
Technician enrolment: 230
Accreditation: WA
Admission: High-school graduation or 18 yrs. old
Architectural drafting technology**, construction technology**, civil technology**, highway technology**, electronic communications technology**, electronics technology**, nursing, X-ray technology, drafting technology**

Cerritos College,
11110 E. Alondra Blvd., Norwalk
Public. Jack W. Mears, pres.
Total enrolment: 8,700

Technician enrolment: 3,200
Accreditation: WA
Admission: High-school graduation or 18 yrs. old
Chemical technology*, metallurgical technology, electrical technology*, data processing technology, architectural drafting technology, computer technology*, electro-mechanical drafting technology, electronic communications technology, industrial electronic technology, dental technology, nursing, engineering science technology*, automotive technology, design technology, drafting technology, industrial drafting and design technology, industrial illustration technology*, machine tool technology, mechanical drafting technology, welding technology, welding and metallurgical technology, tool design technology

CHABOT COLLEGE,
25555 Hesperian Blvd., Hayward 94545
Public. Reed L. Buffington, supt.-pres.
Leo A. Meyer, asst. dean
Total enrolment: 8,616
Technician enrolment: 2,571
Accreditation: WA
Admission: High-school graduation or 18 yrs. old and able to profit from instruction
Data processing technology, electro-mechanical drafting technology, electronics technology, dental technology, medical technology, nursing, radiation technology*, engineering science technology, nucleonics*, automotive technology, drafting technology, industrial drafting and design technology, industrial technology, machine tool technology, mechanical and production engineering technology, mechanical technology, welding technology, fire-protection technology, police science

CHAFFEY COLLEGE,
5885 Haven Ave., Alta Loma 91701
Public. Harry D. Wiser, pres.
Rex W. Wignall, dir.
Total enrolment: 6,446
Accreditation: WA
Admission: High-school graduate, or 18 yrs. old and able to benefit from program
Data processing technology, architectural drafting technology, aviation electronics technology, electronics technology, nursing, lithographic technology, automotive technology, aeronautical and astronautical (engineering) technology, drafting technology

CITRUS COLLEGE,
18824 E. Foothill Blvd., Azusa 91702
Public. Glen Guldberg, dean, voc. tech. ed.
Total enrolment: 6,000
Technician enrolment: 2,500
Accreditation: WA
Admission: High-school graduate or at least 18 yrs. old
Data processing technology, architectural drafting technology, architectural engineering technology, surveying technology, computer technology, electrical technology, electro-mechanical drafting technology, industrial electronic technology, dental technology, health technology, medical laboratory technology, medical records technology, optical technology, radiation technology, ceramic technology, engineering science technology, automotive technology, internal combustion (engineering) technology, design technology, drafting technology, machine tool technology, mechanical drafting technology

CITY COLLEGE OF SAN FRANCISCO,
San Francisco
Public. Louis G. Conlan, prin.
Thomas Nesbitt, dean
Total enrolment: 9,800
Technician enrolment: 4,500
Accreditation: WA
Admission: High-school graduation
Architectural engineering technology†, building construction technology†, surveying technology†, electrical technology†, electronics technology†, dental technology, medical technology, nursing, X-ray technology, chemical technology, graphic arts technology, air-conditioning, heating, and refrigeration technology†, design drafting technology†, mechanical technology†, fire science technology, food-processing technology, criminology

COALINGA COLLEGE,
300 Cherry Lane, Coalinga 93210
Public. Jack E. Mulkey, pres.
Earl McGhee, tech. ed. chm.
Total enrolment: 600
Technician enrolment: 292
Accreditation: WA
Admission: High-school graduation or over 18 yrs. of age
Agri-business technology, agricultural engineering technology, soils technology, architectural drafting technology, civil technology, surveying technology, industrial electronic technology, automotive technology

COGSWELL POLYTECHNICAL COLLEGE,
3000 Folsom St., San Francisco
Private. E. W. Smith, pres.
Total enrolment: 120
Technician enrolment: 120
Admission: High-school graduation with ability in science and math
Structural engineering technology†, electronic engineering technology†, mechanical engineering technology†

COLLEGE OF MARIN, Kentfield 94904
Public. Irwin P. Diamond, supt.-pres.
Joseph C. Berruezo, asst. dean
Total enrolment: 3,000
Technician enrolment: 450
Accreditation: WA
Admission: Open door. High-school graduate or over 18 yrs. old and able to profit from instruction
Agri-business technology, agricultural engineering technology, data processing technology**, architectural drafting technology, architectural engineering technology, civil technology†, surveying technology†, computer technology, electrical technology, electronic drafting technology*, electronics technology, industrial electronic technology, dental technology, nursing, sanitary engineer technology*, ceramic technology*, engineering science technology†, automotive technology, drafting technology, industrial drafting and design technology, machine tool technology, fire-protection technology, police science

COLLEGE OF SAN MATEO,
1700 W. Hillsdale Blvd., San Mateo
Public. Julio L. Bortolazzo, supt.-pres.
Total enrolment: 19,000
Technician enrolment: 2,600
Accreditation: WA
Admission: High-school graduation or 18 yrs. old
Soils technology*, data processing technology**, architectural drafting technology**, aviation electronics technology, computer technology, commercial broadcasting technology**, electronic communications technology**, electronic drafting technology**, electronics technology**, dental technology, medical laboratory technology, medical technology, nursing, aeronautical and astronautical (engineering) technology**, aviation maintenance technology**, aviation technology**, drafting technology**, industrial drafting and design technology**, industrial illustration technology**, machine tool technology**, mechanical and production engineering technology**

COLLEGE OF THE DESERT,
Palm Desert 92260
Public. R. C. McCall, pres.
Total enrolment: 3,100
Technician enrolment: 100
Accreditation: WA
Admission: High-school graduation or equivalent
Automotive technology, drafting technology, architectural drafting technology, electronics technology, industrial technology, machine tool technology

College of the Redwoods,
1040 Del Norte St., Eureka 95501
Public. Eugene J. Portugal, pres.
Wm. A. Stanton, dean, voc.-tech. ed.
Total enrolment: 2,500
Technician enrolment: 400
Accreditation: WA
Admission: High-school graduation or over 18 yrs. of age
Agri-business technology*, data processing technology, publications technology*, architectural drafting technology, building construction technology, construction technology, civil technology, highway technology*, surveying technology, aviation electronics technology, computer technology, electrical technology*, electro-mechanical drafting technology*, electro-mechanical technology*, electronic communications technology*, electronic drafting technology, electronics technology, industrial electronic technology*, medical records technology*, nursing, X-ray technology*, engineering science technology, forest products technology, graphic arts technology*, metallurgical technology*, auto-diesel technology*, automotive technology, aviation technology, drafting technology, hydraulics technology*, industrial drafting and design technology, industrial illustration technology*, industrial technology*, machine tool technology, mechanical drafting technology, mechanical technology*, fire-protection technology, police science

College of the Siskiyous,
Rt. 1, Box 1025, Weed 96094
Public. W. E. Roberts, pres.-supt.
Roger Ellis, dir., voc. ed.
Total enrolment: 1,800
Technician enrolment: 200
Accreditation: WA
Admission: High-school graduation or 18 yrs. old
Agri-business technology, agricultural engineering technology, soils technology, publications technology, statistical technology, architectural drafting technology, architectural engineering technology, surveying technology, electro-mechanical technology, electronic communications technology, electronics technology, dental technology, engineering science technology, forest products technology, automotive technology

Compton College,
1111 E. Artesia Blvd., Compton 90221
Public. Foster Davidoff, pres.
Roger Beam, coord. tech. trng.
Total enrolment: 5,000
Technician enrolment: 1,000
Accreditation: WA
Admission: High-school graduation, 18 yrs. of age or over, able to profit from instruction
Data processing technology**, architectural drafting technology**, architectural engineering technology**, nursing, X-ray technology, engineering science technology, graphic arts technology, automotive technology, industrial drafting and design technology, machine tool technology

Contra Costa College, 2600 Mission Bell Dr., San Pablo 94806
Public. Raymond S. Dondero, pres.
M. V. Hankins, dir. tech. ed.
Total enrolment: 5,297
Technician enrolment: 795
Accreditation: WA
Admission: Varies according to individual program
Data processing technology**, architectural drafting technology, architectural engineering technology, construction technology*, civil technology, computer technology**, electrical technology**, industrial electronic technology**, medical records technology, nursing, sanitary engineer technology*, chemical technology, graphic arts technology*, instrumentation technology*, metallurgical technology*, airconditioning, heating, and refrigeration technology*, automotive technology**, fire-protection technology*, water technology*, materials evaluation technology**

Control Data Institute,
5630 Arbor Vitae, Los Angeles 90045
Private. Paul V. Fahey, dir.
Edgar T. Burr, mgr. of instruc.
Total enrolment: 300
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: High-school graduation, GEDT or equivalent, successful completion of entrance examinations
Computer technology**, electro-mechanical drafting technology, programing technology**

Cubberley Adult School,
4000 Middlefield Rd., Palo Alto 94303
Public. Thomas F. Damon, prin.
Total enrolment: 1,625
Technician enrolment: 177
Accreditation: WA, State Ed. Dept.
Building construction technology*, electronic drafting technology*, electronics technology*, automotive technology*, welding technology*

Cuesta College,
P. O. Box J, San Luis Obispo 93401
Public. Merlin E. Eisenbise, pres.-supt.
Arnold F. W. Frank, chm. tech. ed.
Total enrolment: 2,000
Technician enrolment: 200
Accreditation: WA
Admission: High-school graduate or any adult who may benefit from the courses (open door policy)
Electronics technology, nursing, automotive technology, fire-protection technology, metals technology, police science

Cypress Junior College,
9200 Valley View St., Cypress 90630
Public. Daniel G. Walker, pres.
Lyndon Taylor, tech. ed. chm.
Total enrolment: 1,345
Admission: High-school graduation or at least 18 yrs. of age and able to profit from experience
Architectural drafting technology, engineering science technology, aviation technology, drafting technology

Diablo Valley College,
321 Golf Club Rd., Pleasant Hill 94523
Public. William P. Niland, pres.
C. Patrick Carter, tech. ed. chm.
Total enrolment: 10,752
Technician enrolment: 725
Accreditation: WA
Admission: High-school graduation or at least 18 yrs. of age
Data processing technology, architectural drafting technology, construction technology, electronics technology, industrial electronic technology, dental technology, nursing, drafting technology, engineering electronics technology, surveying and materials testing, dental assisting, dental hygiene, technical industrial processes

Don Bosco Technical Institute,
1151 San Gabriel Blvd.,
South San Gabriel 91777
Private. Rev. Thomas J. Prendiville, S.D.B., prin. Bro. Lawrence King, S.D.B., hd., tech. ed.
Total enrolment: 668
Technician enrolment: 668
Accreditation: WA
Admission: Entrance test
Building construction technology, electronics technology, lithographic technology, metallurgical technology, automotive technology, drafting technology, mechanical technology

East Los Angeles College, 5357 E. Brooklyn Ave., Los Angeles 90022
Public. John V. Wells, pres.
Jack E. Smith, dean of instruc.
Total enrolment: 12,000
Technician enrolment: 4,000
Accreditation: WA
Admission: High-school graduation
Data processing technology, architectural drafting technology, construction technology, highway technology, surveying technology, computer technology, elec-

tro-mechanical drafting technology, electro-mechanical technology, electronics technology, microminiaturization technology, health technology, medical laboratory technology, medical records technology, nursing, design technology, industrial drafting and design technology, industrial illustration technology, mechanical drafting technology, fire-protection technology

EL CAMINO COLLEGE, El Camino 90506
Public. Stuart E. Marsee, pres.
Horace Bates, tech. trng.
Total enrolment: 15,600
Technician enrolment: 3,000
Accreditation: WA
Admission: High-school graduate or 18 yrs. of age
Architectural drafting technology**, building construction technology**, electronic communications technology**, electronic drafting technology**, electronics technology**, medical technology**, nursing**, radiation technology**, metallurgical technology**, airconditioning, heating, and refrigeration technology**, automotive technology**, drafting technology**, industrial illustration technology**, mechanical drafting technology**, police science**

EL MONTE ADULT SCHOOL,
3048 N. Tyler Ave., El Monte 91731
Public. Henry C. Blankenship, prin.
Total enrolment: 7,500
Technician enrolment: 250
Accreditation: WA
Computer technology

EUREKA CITY ADULT SCHOOL,
1915 J. St., Eureka 95501
Public. Richard L. Van Wagner, prin.
Roland Wentzel, coord. voc. ed.
Total enrolment: 3,000
Technician enrolment: 500
Accreditation: WA
Admission: Previous course work or experience
Building construction technology*, electrical technology*, automotive technology*, machine tool technology*

FOOTHILL JUNIOR COLLEGE DISTRICT,
12345 El Monte Rd., Los Altos Hills 94022
Public. Calvin C. Flint, supt.
Nathan H. Boortz, dir. tech. ed.
Total enrolment: 13,123
Technician enrolment: 5,556
Accreditation: WA
Admission: High-school graduation or equivalent
Commercial design technology**, data processing technology**, publications technology**, computer technology**, electronic drafting technology*, electronics technology**, nursing, X-ray technology, automotive technology**, industrial drafting and design technology**, industrial illustration technology**, machine tool technology**, electro - photo - optical technology**, quality control technology**, machine tool programing*, inhalation therapy technology, dental hygiene, tool design technology*

FRESNO CITY COLLEGE,
1101 University Ave., Fresno
Public. A. Bradshaw, pres.
Total enrolment: 6,500
Technician enrolment: 3,700
Accreditation: WA
Admission: High-school graduation or over 18 yrs. old
Airconditioning and heating technology, drafting technology, architectural drafting technology, electrical technology, data processing technology, building construction technology, structural engineering and design technology, industrial electronic technology, engineering science technology, instrumentation technology, auto-diesel technology, automotive technology, internal combustion (engineering) technology*, aviation maintenance technology, design technology*, industrial drafting and design technology, industrial illustration technology*, industrial technology, mechanical and production engineering technology*, fire-protection technology

FULLERTON JUNIOR COLLEGE,
321 E. Chapman Ave., Fullerton
Public. H. L. Sheller, pres.
Total enrolment: 11,300
Technician enrolment: 1,400
Accreditation: WA, State Ed. Dept.
Admission: High-school graduation or equivalent
Automotive technology**, civil technology, civil and construction technology**, electronic data processing technology**, drafting technology**, architectural drafting technology**, electrical technology**, electro-mechanical drafting technology**, electronics technology**, industrial electronic technology**, industrial technology**, drafting and tool design**, machine drafting and design**, metallurgical technology**, agri-business technology*, soils technology*, publications technology**, building construction technology**, highway technology*, surveying technology, electro-mechanical technology**, electronic communications technology*, electronic drafting technology**, dental technology**, medical records technology**, medical technology**, nursing, X-ray technology**, graphic arts technology**, internal combustion (engineering) technology*, industrial drafting and design technology**, mechanical drafting technology**, food-processing technology*

GAVILAN COLLEGE,
P. O. Box 126, Gilroy 95020
Public. Ralph Schroder, pres.-supt.
Ronald Glenn, tech. ed. chm.
Total enrolment: 1,000
Technician enrolment: 200
Accreditation: WA
Admission: High-school graduation, 18 yrs. of age, able to profit from post-high-school education
Agri-business technology, architectural drafting technology, architectural engineering technology, building construction technology, construction technology, aviation electronics technology, electronic drafting technology, nursing, engineering science technology, graphic arts technology, aviation maintenance technology, aviation technology, drafting technology, industrial drafting and design technology, mechanical drafting technology, police science

GLENDALE COLLEGE,
1500 N. Verdugo Rd., Glendale 91208
Public. R. D. Haugh, pres.
Total enrolment: 3,000
Technician enrolment: 800
Accreditation: WA
Admission: High-school graduation or over 18 yrs. old
Drafting technology, electronic technology**, machine tool technology, data processing technology**, building construction technology, electro-mechanical drafting technology, aviation maintenance technology, aviation technology, industrial drafting and design technology, industrial illustration technology, industrial technology**, mechanical drafting technology, fire-protection technology*

GOLDEN WEST COLLEGE,
15744 Golden West St.,
Huntington Beach 92647
Public. R. Dudley Boyce, pres.
Edward M. Parsons, chm., tech. div.
Total enrolment: 2,000
Technician enrolment: 480
Admission: 18 yrs. old, show ability tc profit from instruction
Data processing technology, architectura drafting technology, electro-mechanica drafting technology, electro-mechanica technology, electronic drafting technol ogy, instrumentation technology, draft ing technology, industrial drafting an design technology, industrial illustra tion technology

GRANTHAM SCHOOL OF ELECTRONICS,
1505 N. Western Ave.,
Hollywood 90027
Private. Donald J. Grantham, pres.
Total enrolment: 800
Technician enrolment: 800
Accreditation: NHSC
Admission: High-school graduation or equivalent
Commercial broadcast technology*, electronic communications technology**, electronic engineering technology**

GROSSMONT COLLEGE, 8800 Grossmont
College Dr., El Cajon 92020
Public. Harold G. Hughes, supt.-pres.
C. Allen Paul, dean of tech.-voc. ed.
Total enrolment: 4,700
Technician enrolment: 180
Accreditation: WA
Admission: High-school graduation or adult
Data processing technology, architectural drafting technology, construction technology, civil technology, surveying technology, computer technology, commercial broadcast technology, electro-mechanical drafting technology, electro-mechanical technology, electronic communications technology, electronic drafting technology, electronics technology, industrial electronic technology, micro-miniaturization technology, dental technology, medical technology, nursing, instrumentation technology, design technology, drafting technology, industrial drafting and design technology, industrial illustration technology, industrial technology, mechanical and production engineering technology, mechanical drafting technology, mechanical technology, material lab technology

HANFORD ADULT SCHOOL, 120 E.
Grangeville Blvd., Hanford 93230
Public. Roland K. Attebery, prin.
Total enrolment: 697
Technician enrolment: 41
Accreditation: U. of Calif.
Architectural drafting technology*, nursing*

HUMPHREYS COLLEGE,
6650 Inglewood Ave., Stockton 95207
Private. John R. Humphreys, pres.
John J. Huff, chm., eng. tech.
Total enrolment: 250
Technician enrolment: 35
Admission: High-school graduation
Data processing technology†, civil technology†, electronics technology†

HUNTINGTON PARK ADULT SCHOOL,
6020 Miles Ave., Huntington Park
Public. A. A. McIntyre, dir.
Total enrolment: 2,400
Accreditation: State Ed. Dept.
Drafting technology, architectural technology, electronics technology, drafting and tool design, machine drafting and design

KONKOL TECHNICAL SCHOOLS,
1110-C S. Claudina Pl., Anaheim 92805
Private. E. L. Konkol, dir.
Total enrolment: 70
Technician enrolment: 70
Admission: High-school graduation or equivalent, GEDT, entrance examination
Commercial broadcast technology, electro-mechanical drafting technology, electronic communications technology, electronic drafting technology, electronics technology, industrial electronic technology

LANEY COLLEGE,
1001—3rd Ave., Oakland 94606
Public. Wallace T. Homitz, pres.
Edward Bratset, asst. dean
Total enrolment: 3,200
Technician enrolment: 1,600
Accreditation: WA
Admission: High-school graduate or 18 yrs. of age and able to profit from instruction
Architectural drafting technology, electrical technology**, electronic communications technology, electronic drafting technology, nursing, graphic arts technology, airconditioning, heating, and refrigeration technology, auto-diesel technology**, automotive technology, industrial drafting and design technology

LASSEN COLLEGE,
1110 Main St., Susanville
Public. R. E. Aspegren, dir.
Total enrolment: 466
Technician enrolment: 104
Accreditation: WA
Admission: High-school graduation or 18 yrs. old
Forestry technology†

LOMPOC HIGH SCHOOL,
515 W. College Ave., Lompoc
Public. Robert Paisola, prin.
Gordon R. de Marrais, coord. voc. ed.
Technician enrolment: 18
Accreditation: WA
Electronics technology, graphic arts technology, automotive technology

LONG BEACH CITY COLLEGE,
4901 E. Carson St., Long Beach 90808
Public. Wiley D. Garner, pres.
James O. Plusch, dean, eng. and voc. ed.
Total enrolment: 24,500
Technician enrolment: 1,100
Accreditation: WA
Admission: Testing program
Data processing technology**, architectural drafting technology**, building construction technology**, construction technology**, electrical technology**, electro-mechanical drafting technology, electro-mechanical technology, electronic communications technology*, electronic drafting technology*, electronics technology**, industrial electronic technology*, dental technology**, medical records technology**, nursing, metallurgical technology*, airconditioning, heating, and refrigeration technology**, auto-diesel technology**, automotive technology**, aviation maintenance technology**, aviation technology*, drafting technology**, industrial drafting and design technology**, machine tool technology**, mechanical and production engineering technology*, mechanical drafting technology**, fire-protection technology*, petroleum technology*, police science**, sheetmetal technology**, ship construction*, welding technology**

LOS ANGELES CITY COLLEGE, 855 N.
Vermont Ave., Los Angeles 90029
Public. Glenn Gooder, pres.
Total enrolment: 18,940
Technician enrolment: 2,403
Accreditation: WA
Admission: 18 yrs. of age or high-school graduate
Data processing technology, computer technology, commercial broadcast technology, electrical technology, electro-mechanical technology, electronic communications technology, electronics technology, dental technology, medical records technology, nursing, optical technology, X-ray technology, graphic arts technology, drafting technology, industrial technology, mechanical technology

LOS ANGELES EVENING HIGH SCHOOL,
Los Angeles
Public. P. Chambers, prin.
Total enrolment: 4,500
Technician enrolment: 95
Accreditation: U. of Calif.
Electronics technology*, drafting and tool design*, machine drafting and design*

LOS ANGELES HARBOR COLLEGE,
1111 Figueroa Pl., Wilmington 90744
Public. Wendell C. Black, pres.
John A. Grasham, dean of instruc.
Total enrolment: 5,853
Technician enrolment: 545
Accreditation: WA
Admission: High-school graduation or over 18 yrs. of age

Architectural drafting technology, building construction technology, surveying technology, electrical technology, electro-mechanical drafting technology, electro-mechanical technology, electronics technology, nursing, chemical technology, graphic arts technology, instrumentation technology, lithographic technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, drafting technology, machine tool technology, mechanical technology, fire-protection technology, police science

LOS ANGELES PIERCE COLLEGE, 6201 Winnetka Ave., Woodland Hills 91364
Public. Marie Y. Martin, pres.
Walter Ott, chm., tech-ind. dept.
Total enrolment: 13,000
Technician enrolment: 2,800
Accreditation: WA
Admission: High-school graduation or 18 yrs. or older
Agri-business technology**, agricultural engineering technology*, soils technology*, commercial design technology*, data processing technology*, architectural drafting technology**, architectural engineering technology*, building construction technology*, construction technology**, structural engineering and design technology*, surveying technology*, computer technology*, electrical technology*, electro-mechanical drafting technology*, electro-mechanical technology*, electronic communications technology*, electronic drafting technology*, electronics technology, industrial electronic technology*, chemical technology*, engineering science technology*, forest products technology*, graphic arts technology, metallurgical technology*, automotive technology**, internal combustion (engineering) technology*, design technology*, drafting technology**, fluid power (engineering) technology**, hydraulics technology*, industrial drafting and design technology**, industrial illustration technology**, industrial technology**, machine tool technology**, mechanical drafting technology*, mechanical technology*, dairy science**, laboratory animal technician**, geophysics technology**, numerical control maintenance**, quality control technician**

LOS ANGELES TRADE-TECHNICAL COLLEGE, 400 W. Washington Blvd., Los Angeles 90015
Public. F. Parker Wilber, pres.
Franklin R. Johnson, dean of instruc.
Total enrolment: 14,000
Technician enrolment: 13,500
Accreditation: WA
Admission: High-school graduation, 18 yrs. old, aptitude tests
Commercial design technology**, data processing technology**, architectural drafting technology**, building construction technology**, construction technology**, aviation electronics technology**, computer technology**, electrical technology**, electro-mechanical drafting technology**, electro-mechanical technology**, electronics technology**, nursing**, graphic arts technology**, lithographic technology**, metallurgical technology**, airconditioning, heating, and refrigeration technology**, auto-diesel technology**, automotive technology**, aviation maintenance technology**, aviation technology**, design technology**, drafting technology**, industrial drafting and design technology**, industrial illustration technology**, machine tool technology**, mechanical drafting technology**, food-processing technology**, welding**, plastics**

LOS ANGELES VALLEY COLLEGE, 5800 Fulton Ave., Van Nuys
Public. William J. McNelis, pres.
Stewart Marsh, dean of instruc.
Total enrolment: 16,000
Technician enrolment: 1,700
Accreditation: WA
Admission: High-school graduation or 18 yrs. old or over and ability to profit from instruction
Data processing technology, civil technology, aviation electronics technology, computer technology, electro-mechanical drafting technology, electronics technology, nursing, nucleonics, drafting technology, industrial illustration technology, industrial technology, machine tool technology, police science, fire science

LUTHER BURBANK SENIOR HIGH SCHOOL, 3500 Florin Rd., Sacramento 95823
Public. Oliver A. Livoni, prin.
William Dresser, vice prin.
Total enrolment: 2,700
Technician enrolment: 50
Accreditation: WA
Building construction technology, surveying technology, electrical technology, electronics technology, chemical technology, engineering science technology, metallurgical technology, drafting technology, industrial technology, mechanical drafting technology, mechanical technology

MANUAL ARTS HIGH SCHOOL, 4131 S. Vermont Ave., Los Angeles 90037
Public. Donald L. Pennington, prin.
Total enrolment: 3,200
Technician enrolment: 68
Accreditation: State Ed. Dept.
Admission: 18 yrs. old min.
Electronic communications technology

MERCED COLLEGE, 920 J St., Merced
Public. Lowell F. Barker, supt.-pres.
Total enrolment: 2,181
Technician enrolment: 75
Accreditation: WA
Admission: High-school graduation or 18 yrs. old
Architectural drafting technology*, surveying technology, electronics technology, nursing, drafting technology

MERRITT COLLEGE, 5714 Grove St., Oakland 94609
Public. Edward H. Redford, pres.
Total enrolment: 8,560
Technician enrolment: 1,500
Accreditation: WA
Admission: High-school graduation or 18 yrs. of age and able to do college work
Ornamental horticulture, data processing technology, architectural drafting technology, architectural engineering technology, building construction technology, civil technology, surveying technology, computer technology, electrical technology, electro-mechanical drafting technology, electro-mechanical technology, electronic drafting technology, nursing, X-ray technology, optometric assistant technology, industrial safety technology, chemical technology, automotive technology, drafting technology, fluid power (engineering) technology, mechanical drafting technology, fire-protection technology, law enforcement technology

MODESTO JUNIOR COLLEGE, College Ave., Modesto
Public. Walter Garcia, pres.-supt.
Louis A. Schwark, dir.
Total enrolment: 4,000
Technician enrolment: 2,600
Accreditation: WA
Admission: High-school graduation or 18 yrs. old
Agri-business technology**, agricultural engineering technology**, soils technology**, data processing technology**, architectural drafting technology, civil technology, commercial broadcast technology, electronic communications technology**, electronics technology**, industrial electronic technology*, nursing, graphic arts technology**, lithographic technology**, airconditioning, heating, and refrigeration technology*, automotive technology**, drafting technology, fire-protection technology*, police science, dental assisting, medical assisting

MONTEREY PENINSULA COLLEGE,
980 Fremont Blvd., Monterey 93940
Public. George J. Paul, pres.
Charles R. Mulkey, dean, tech.-voc. ed.
Total enrolment: 4,199
Technician enrolment: 800
Admission: High-school graduation or 18 yrs. of age or over
Data processing technology**, architectural drafting technology, civil technology**, surveying technology**, electronic communications technology**, electronic drafting technology*, electronics technology**, industrial electronic technology**, medical records technology*, fire-protection technology**, dental assisting**, medical assisting**, photographic technology**, police science**

MOUNT SAN ANTONIO COLLEGE,
1100 N. Grand Ave., Walnut 91789
Public. Oscar H. Edinger, Jr., pres.
Marie T. Mills, vice pres., instruc.
Total enrolment: 11,859
Accreditation: WA
Admission: High-school graduation or 18 yrs. or older
Agri-business technology, agricultural engineering technology, soils technology, commercial design technology, data processing technology, civil technology, surveying technology, electrical technology, electronics technology, nursing, airconditioning, heating, and refrigeration technology, aviation maintenance technology, aviation technology, drafting technology, hydraulics technology, industrial illustration technology, fire-protection technology, police science

MOUNTAIN VIEW-LOS ALTOS ADULT SCHOOL, Box 640, Mountain View 94040
Public. Lindley S. Allen, dir.
J. Robert Gonzalves, asst. dir.
Total enrolment: 4,599
Technician enrolment: 210
Accreditation: WA
Admission: High-school graduation, or 19, or married (regardless of age)
Electronics technology, industrial electronic technology, drafting technology, mechanical technology

NAPA JUNIOR COLLEGE, 2277 Napa-Vallejo Highway, Napa 94558
Public. George W. Meldrum, dean
Frank Jacobs, chm. tech. ed.
Total enrolment: 2,500
Technician enrolment: 250
Accreditation: WA
Admission: High-school graduation or 18 yrs. old
Electronics technology, nursing, engineering science technology, graphic arts technology, drafting technology, machine tool technology, ornamental horticulture

NORTHROP INSTITUTE OF TECHNOLOGY,
1155 W. Arbor Vitae St., Inglewood
Private: H. W. Hartley, pres.
Total enrolment: 1,586
Technician enrolment: 116
Accreditation: WA
Admission: High-school graduation from college preparatory program
Aeronautical technology†, electronics technology†, engineering technology†, aviation maintenance technology†

NORTH HOLLYWOOD ADULT SCHOOL,
5231 Colfax Ave., North Hollywood 91601
Public. Willard H. Mann, prin.
Total enrolment: 3,711
Technician enrolment: 226
Accreditation: State Ed. Dept.
Data processing technology, computer technology, medical records technology, ceramic technology, drafting technology

ORANGE COAST COLLEGE, 2701 Fairview Rd., Costa Mesa 92626
Public. Robert B. Moore, pres.
Samuel Peterson, chm., tech. div.
Total enrolment: 6,350
Technician enrolment: 1,750
Accreditation: WA
Admission: High-school graduation or 18 yrs. of age
Agri-business technology, agricultural engineering technology, soils technology, data processing technology**, architectural drafting technology, architectural engineering technology*, building construction technology, construction technology, civil technology, highway technology, surveying technology, electro-mechanical drafting technology**, electronics technology**, dental technology, medical records technology*, nursing, X-ray technology, chemical technology, graphic arts technology*, airconditioning, heating, and refrigeration technology**, automotive technology**, aviation technology*, industrial drafting and design technology, machine tool technology, ornamental horticulture, police science**, petroleum technology

PALOMAR COLLEGE, San Marcos 92069
Public. Frederick R. Huber, supt.-pres.
James G. Soules, dir. of voc. ed.
Total enrolment: 4,651
Technician enrolment: 527
Accreditation: WA
Admission: High-school graduation
Electronics technology*, graphic arts technology*, automotive technology*, drafting technology*, industrial illustration technology*, fire-protection technology*, medical assisting*

PASADENA CITY COLLEGE,
1570 E. Colorado Blvd., Pasadena 91106
Public. Armen Sarafian, pres.
Total enrolment: 12,358
Technician enrolment: 2,000
Accreditation: WA
Admission: High-school graduation or over 18 yrs. of age
Data processing technology**, architectural drafting technology**, building construction technology, construction technology*, civil technology, highway technology, surveying technology**, computer technology*, commercial broadcast technology**, electrical technology*, electronic communications technology**, electronic drafting technology*, electronics technology**, industrial electronic technology*, dental technology, medical laboratory technology, nursing, chemical technology, graphic arts technology**, instrumentation technology, lithographic technology**, metallurgical technology*, nucleonics, airconditioning, heating, and refrigeration technology*, automotive technology**, drafting technology, industrial illustration technology*, mechanical drafting technology, welding technology**, police science**, fire science**, sign art technology**, drafting—aerospace design

PHINEAS BANNING ADULT SCHOOL,
15500 N. Avalon Blvd.,
Wilmington 90744
Public. Arthur A. McIntyre, prin.
Total enrolment: 2,750
Technician enrolment: 1,075
Admission: High-school graduation or 18 yrs. or older, or high-school dropout with day principal's request
Automotive technology*, airconditioning and heating technology*, drafting technology*, electrical technology*, electronics technology*, industrial electronic technology*, industrial technology*, drafting and tool design*, mechanical design technology*, mechanical technology*, nucleonics*, architectural drafting technology, electronic drafting technology, nursing, industrial technology, machine tool technology

PORTERVILLE COLLEGE,
P. O. Box 952, Porterville 93257
Public. O. H. Shires, pres.
Total enrolment: 704
Technician enrolment: 235
Accreditation: WA
Admission: High-school graduation or 18 yrs. old
Agri-business technology, agricultural en-

gineering technology, architectural drafting technology, building construction technology, electronics technology, nursing, engineering science technology, forest products technology, auto-diesel technology, drafting technology, welding technology

Reedley College,
Reed and Manning Ave., Reedley 93654
Public. C. M. Boyer, pres.
Jack L. Stevenson, dean, voc.-tech. div.
Total enrolment: 1,785
Technician enrolment: 700
Accreditation: WA
Admission: High-school graduation or 18 yrs. or older
Agri-business technology**, soils technology*, aviation electronics technology**†, electronics technology**†, dental technology (dental assistant)**, automotive technology**, combustion power technology**, aviation maintenance technology**, aviation technology*, agri-power technology, landscape horticulture technology**, agri-chemical technology, agricultural inspection technology

Rio Hondo Junior College,
3600 Workman Mill Rd.,
Whittier 90601
Public. Walter M. Garcia, supt.-pres.
Total enrolment: 6,200
Technician enrolment: 1,200
Accreditation: WA, State Ed. Dept.
Admission: High-school graduation or over 18 yrs. of age
Commercial design technology, architectural drafting technology, architectural engineering technology, structural engineering and design technology, surveying technology, electrical technology, electro-mechanical drafting technology, electro-mechanical technology, electronic communications technology, electronic drafting technology, electronics technology, industrial electronic technology, dental technology, health technology, medical laboratory technology, nursing, ceramic technology, chemical technology, engineering science technology, auto-diesel technology, automotive technology, design technology, drafting technology, hydraulics technology, industrial drafting and design technology, industrial technology, machine tool technology, mechanical drafting technology, mechanical technology, fire-protection technology

Riverside City College,
3650 Fairfax Ave., Riverside 92506
Public. R. H. Bradshaw, pres.
Cecil D. Green, coord. of voc. ed.
Total enrolment: 3,590
Technician enrolment: 1,500
Accreditation: WA
Admission: High-school graduation or over 18 yrs. old and able to profit from instruction
Data processing technology**, publications technology**, architectural drafting technology**, surveying technology**, computer technology**, electronics technology**, nursing**, X-ray technology, graphic arts technology**, lithographic technology**, automotive technology, drafting technology**, machine tool technology**, mechanical drafting technology**

Roosevelt Adult School,
2611 E. Lanfranco St., Los Angeles 90033
Public. G. Leon Gardner, prin.
Total enrolment: 3,600
Technician enrolment: 310
Accreditation: State Ed. Dept.
Admission: 18 yrs. of age or over
Architectural drafting technology, electrical technology, electronics technology, nursing, ceramic technology, drafting technology, mechanical drafting technology

Sacramento City College, Sacramento
Public. H. H. Stephenson, pres.
Total enrolment: 5,068
Technician enrolment: 575
Accreditation: WA
Admission: High-school graduation or 18 yrs. or older with demonstrated ability
Automotive technology, aeronautical technology, civil technology, construction technology, electronics technology, mechanical engineering technology, metals technology

San Benito College, Hollister
Public. R. Schroder, dir.
Total enrolment: 300
Accreditation: WA
Admission: High-school graduation or 18 yrs. or older and able to profit from post-high-school education
Civil technology, electronics technology

San Bernardino Adult Vocational School, 18th & "E" Sts.,
San Bernardino 92405
Public. Clarence L. Sorenson, prin.
Total enrolment: 1,850
Technician enrolment: 1,100
Electronic communications technology

San Bernardino Valley College,
701 S. Mt. Vernon Ave.,
San Bernardino 92403
Public. J. W. McDaniel, pres.
William Winstead, vice pres. for instruc.
Total enrolment: 12,000
Technician enrolment: 3,500
Accreditation: WA
Admission: High-school graduation or over 18 yrs. of age and able to profit from instruction
Agri-business technology, agricultural engineering technology, commercial design technology, data processing technology, architectural drafting technology, architectural engineering technology, building construction technology, construction technology, civil technology, highway technology, structural engineering and design technology, surveying technology, aviation electronics technology, computer technology, commercial broadcast technology, electrical technology, electro-mechanical drafting technology, electro-mechanical technology, electronic communications technology, electronic drafting technology, electronics technology, industrial electronic technology, health technology, medical laboratory technology, medical records technology, nursing, chemical technology, engineering science technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, combustion power technology, internal combustion (engineering) technology, aeronautical and astronautical (engineering) technology, aviation maintenance technology, aviation technology, drafting technology, industrial drafting and design technology, fire-protection technology, food-processing technology, police science

San Diego City College,
1425 Russ Blvd., San Diego 92101
Public. Rex Gorton, pres.
Arnold V. Bergeson, dean of voc. ed.
Total enrolment: 3,500
Technician enrolment: 1,000
Accreditation: WA
Admission: High-school graduation or 18 yrs. old
Commercial design technology**, data processing technology**, publications technology**, mill cabinet**, commercial broadcast technology**, electrical technology**, electro-mechanical drafting technology**, electronics technology**, engineering science technology**, graphic arts technology**, photography**, airconditioning, heating, and refrigeration technology**, auto-diesel technology**, automotive technology**, aeronautical and astronautical (engineering) technology**, aviation maintenance technology**, design technology**, drafting technology**, industrial illustration technology**, mechanical drafting technology**, fire-protection technology**,

police science**, laboratory animal technician**, welding**, machine shop**

San Diego Mesa College,
7250 Artillery Dr., San Diego 92111
Public. Robert F. Heilbron, pres.
Robert R. Arnold, dean of voc. ed.
Total enrolment: 5,000
Technician enrolment: 550
Accreditation: WA, State Ed. Dept.
Admission: High-school graduation or placement tests
Architectural drafting technology, building construction technology, civil technology, electronic communications technology, nursing

San Fernando School for Adults,
11133 O'Melveny, San Fernando 91340
Public. Edward L. Alberts, prin.
Total enrolment: 11,201
Technician enrolment: 1,400
Accreditation: U. of Calif.
Admission: 18 yrs. of age or older
Data processing technology*, architectural drafting technology*, building construction technology*, aviation electronics technology*, computer technology*, industrial electronic technology*, airconditioning, heating, and refrigeration technology*, automotive technology*, aviation technology*, drafting technology*

San Jose City College,
2100 Moorpark Ave., San Jose 95114
Public. Sidney McGaw, dean
Total enrolment: 10,000
Technician enrolment: 2,000
Accreditation: WA
Admission: High-school graduation or 19 yrs. old with ability to profit from instruction
Data processing technology**, electrical technology**, electronics technology**, nursing, X-ray technology, automotive technology**, drafting technology**, industrial technology**, machine tool technology**, fire-protection technology**, vacuum technology**, welding technology**, quality control*

Santa Ana College, 1530 W. Seventeenth St., Santa Ana 92706
Public. John E. Johnson, pres.
Vernon L. Armstrong, dean
Total enrolment: 5,918
Accreditation: WA
Admission: High-school graduation or 18 yrs. of age or over
Data processing technology, architectural drafting technology, civil technology, surveying technology, electronics technology, nursing, auto-diesel technology, automotive technology, drafting technology, industrial drafting and design technology, machine tool technology, mechanical drafting technology, fire-protection technology

Santa Barbara City College,
Cliff and Leadbetter Dr.,
Santa Barbara 93105
Public. Robert C. Rockwell, supt.-pres.
James E. Foxx, asst. dean
Total enrolment: 3,974
Technician enrolment: 1,171
Accreditation: WA
Admission: High-school graduation or over 18 yrs. of age
Data processing technology**, architectural drafting technology*, building construction technology*, construction technology*, civil technology*, surveying technology*, aviation electronics technology*, electrical technology*, electro-mechanical drafting technology*, electro-mechanical technology*, electronics technology**, industrial electronic technology**, health technology, medical technology**, nursing, sanitary engineer technology*, X-ray technology, engineering science technology, graphic arts technology, lithographic technology, automotive technology, aviation technology*, drafting technology*, fire-protection technology*, police science**

Santa Cruz Adult High School,
350 Taylor St., Santa Cruz 95060
Public. John G. Evans, prin.
Total enrolment: 2,000
Accreditation: WA
Admission: 18 yrs. of age
Mechanical drafting and design technology, electronics technology

Santa Monica City College,
1815 Pearl St., Santa Monica 90406
Public. Wade F. Thomas, pres.
Fred J. Brierley, dean, tech. ed.
Total enrolment: 12,327
Technician enrolment: 1,200
Accreditation: WA
Admission: High-school graduation
Architectural drafting technology**, building construction technology**, computer technology**, electrical technology**, electronic communications technology**, nursing**, lithographic technology**, automotive technology**, machine tool technology**, mechanical and production engineering technology**, police science**, fire science**, welding**, photography**

Santa Rosa Junior College,
Santa Rosa 95401
Public. Randolph Newman, pres.
Charles D. Belden, asst. dean
Total enrolment: 8,000
Technician enrolment: 900
Accreditation: WA
Admission: High-school graduation or upon recommendation of the Dean of Students
Data processing technology*, civil technology**, electronics technology**, dental assistant, medical assistant, nursing, forest products technology**, automotive technology**, drafting technology**, machine tool technology**, fire-protection technology*

Shasta Joint Junior College,
Eureka Way, Redding 96001
Public. Lloyd Livingston, assoc. dean
Arthur Thompson, coord.
Total enrolment: 2,300
Technician enrolment: 450
Accreditation: WA
Admission: High-school graduation or 18 yrs. or older
Agri-business technology, electronics technology, medical technology, nursing, forest products technology, automotive technology, drafting technology, machine tool technology, fire-protection technology

Sierra College,
5000 Rocklin Rd., Rocklin
Public. Russ Journigan, dean, voc. ed.
Total enrolment: 2,600
Technician enrolment: 650
Accreditation: WA
Admission: High-school graduation or 18 yrs. of age
Agri-business technology, soils technology, commercial design technology, publications technology, architectural drafting technology, building construction technology, surveying technology, commercial broadcast technology, electro-mechanical drafting technology, electromechanical technology, electronic drafting technology, industrial electronic technology, health technology, nursing, forest products technology, instrumentation technology, lithographic technology, automotive technology, drafting technology, industrial drafting and design technology, industrial illustration technology, law enforcement

Solano College,
Whitney at Mini Dr., Vallejo 94590
Public. N. Dallas Evans, supt.-pres.
Wm. A. Pratt, dir. of voc.-tech. ed.
Total enrolment: 3,519
Technician enrolment: 562
Accreditation: WA, U. of Calif.
Admission: High-school graduation or 18 yrs. of age and ability to profit from instruction
Data processing technology*, architectural

drafting technology, building construction technology, surveying technology, computer technology*, electrical technology*, electronic communications technology*, electronics technology*, nursing, metallurgical technology, air-conditioning, heating, and refrigeration technology*, automotive technology, drafting technology, industrial drafting and design technology, machine tool technology, mechanical technology, welding, photography, sheetmetal

South Gate Adult School,
3351 Firestone Blvd., South Gate 90280
Public. Joseph Lightburn, prin.
Total enrolment: 1,600
Technician enrolment: 470
Accreditation: WA
Admission: 18 yrs. of age or older
Electrical technology*, electronic drafting technology*, electronics technology*, microminiaturization technology*, graphic arts technology*, auto-diesel technology*, automotive technology*, combustion power technology*, internal combustion (engineering) technology*, drafting technology*, machine tool technology*, mechanical drafting technology*

Taft College, Taft 93268
Public. G. A. Basham, pres.
Kenneth Marr, dean of instruc.
Total enrolment: 1,050
Technician enrolment: 190
Accreditation: WA
Admission: High-school graduation or 18 yrs. of age or older
Architectural drafting technology, architectural engineering technology, building construction technology, civil technology, electronics technology, graphic arts technology, automotive technology, industrial drafting and design technology, industrial technology

Ventura College,
4667 Telegraph Rd., Ventura 93003
Public. Dr. Loehr, pres.
Alden Phillips, asst. dean, voc. ed.
Total enrolment: 3,500
Technician enrolment: 1,000
Accreditation: WA
Admission: High-school graduation or over 18 yrs. of age
Agri-business technology, ornamental horticulture, data processing technology, architectural engineering technology, civil technology, electronics technology, industrial electronic technology, nursing, automotive technology, drafting technology, mechanical drafting technology, mechanical technology, fire-protection technology, welding technology

Victor Valley College,
P. O. Box 910, Victorville
Public. F. F. Berger, pres.
Total enrolment: 1,300
Technician enrolment: 540
Accreditation: WA
Admission: High-school graduation or 18 yrs. or older
Drafting technology, electronics technology, data processing technology, fire-protection technology, police science

West Valley Joint Junior College District, 51 E. Campbell Ave., Campbell 95008
Public. Wallace W. Hall, supt.-pres.
Albert J. Riendeau, dean, voc.-tech. ed.
Total enrolment: 5,540
Technician enrolment: 1,850
Accreditation: WA, State Ed. Dept.
Admission: High-school graduation or 18 yrs. or older
Data processing technology*, architectural drafting technology, civil technology, surveying technology, electronics technology, industrial electronic technology, drafting technology, industrial drafting and design technology, medical assisting, police science

Western States College of Engineering, 970 W. Manchester Ave., Inglewood 90301
Private. Howard S. Ashe, pres.
David Muskat, tech. ed. chm.
Total enrolment: 170
Technician enrolment: 50
Accreditation: State Ed. Dept.
Admission: High-school graduation
Computer technology, electrical technology, electronic communications technology, electronics technology

COLORADO

Adams State College, Alamosa 81101
Public. John A. Marvel, pres.
Total enrolment: 2,674
Accreditation: NCA
Admission: Upper ⅔ of high-school graduating class; lower ⅓ on basis of examinations and recommendations
Data processing technology, medical technology

Arapahoe Junior College,
Littleton 80120
Public. Allan Crawford, pres.
Total enrolment: 550
Technician enrolment: 150
Admission: High-school graduation or equivalent
Data processing technology*, architectural drafting technology, civil technology, surveying technology, medical laboratory technology, engineering science technology, drafting technology, industrial drafting and design technology, police science, chemical technology

Boulder Valley Area Vocational Technical Center,
6600 E. Arapahoe Ave., Boulder 80302
Public. J. Allen Ehl, dir.
Total enrolment: 1,000
Technician enrolment: 400
Accreditation: State Ed. Dept.
Admission: Testing and counseling
Automotive technology, electronics technology, welding and metal fabrication, publications technology, nursing, technical drafting, data processing and computer technology

Colorado Mountain College,
East Campus, Leadville 80461
West Campus, Glenwood Springs 81601
Public. Joe U. Davenport, pres.
James H. Stoner, dean tech. ed.
Total enrolment: 600
Technician enrolment: 275
Accreditation: State Ed. Dept.
Admission: High-school graduation with courses appropriate to curriculum
Agri-business technology**, commercial design technology, data processing technology**, civil technology, computer technology*, electrical technology, electronics technology, graphic arts technology*, automotive technology, aviation maintenance technology, drafting design technology, machine tool technology*, astrogeophysical technology, mining technology**, photographic technology

Colorado State University,
Fort Collins 80521
Public. Wm. E. Morgan, pres.
Total enrolment: 12,700
Accreditation: NCA
Admission: Upper 50 percent of high-school graduating class
Data processing technology

Electronic Technical Institute, Inc.,
1070 Bannock St., Denver 80204
Private: Mary R. Roland, pres.
Austin Wyhs, tech. dir.
Total enrolment: 150
Technician enrolment: 150
Accreditation: State Ed. Dept.
Admission: High-school graduation, GEDT, or equivalent
Electronic communications technology, industrial electronic technology

Emily Griffith Opportunity School,
1250 Welton St., Denver 80204
Public. Russell L. Casement, prin.

Francis Gallagher, tech. ed. chm.
Total enrolment: 36,000
Technician enrolment: 500
Accreditation: NCA, State Ed. Dept.
Computer technology**, electrical technology**, electronic communications technology**, electronics technology**, industrial electronic technology*, instrumentation technology**, airconditioning, heating, and refrigeration technology*

Lamar Junior College,
804 S. 8th, Lamar 81052
Public. L. D. Laird, pres.
Total enrolment: 564
Technician enrolment: 104
Accreditation: State Ed. Dept.
Admission: High-school graduation or GEDT
Agri-business technology, data processing technology, electronics technology, automotive technology, drafting technology

Mesa College, 1120 North Ave., Grand Junction 81501
Public. William A. Medesy, pres.
Lowell Heiny, dean
Total enrolment: 2,958
Technician enrolment: 202
Accreditation: NCA
Admission: Residents—high-school graduation. Non-residents—upper ⅔ rank of graduating class
Data processing technology, nursing, drafting technology

Metropolitan State College,
250 W. 14th Ave., Denver 80204
Public. Kenneth Phillips, pres.
Gail J. Phares, dean
Total enrolment: 2,400
Technician enrolment: 200
Accreditation: NCA
Admission: High-school graduation or equivalent
Data processing technology, civil technology, electrical technology, electronics technology, nursing, X-ray technology, aviation technology, drafting technology, mechanical technology, food-processing technology

Northeastern Junior College,
Sterling 80751
Public. E. S. French, pres.
Francis R. Roche, dir., spec. prog.
Total enrolment: 1,569
Technician enrolment: 277
Accreditation: NCA
Admission: Residents, high-school graduation. Non-residents, upper ¾ of graduating class, GEDT, exceptions made in some areas
Agri-business technology, soils technology, data processing technology, building construction technology, civil technology, surveying technology, electronics technology, nursing, chemical technology, engineering science technology, automotive technology, aviation technology, drafting technology, mechanical technology

Otero Junior College, La Junta 81050
Public. W. L. McDivitt, pres.
G. G. Carnes, dir.
Total enrolment: 545
Technician enrolment: 60
Accreditation: State Ed. Dept.
Admission: High-school graduation
Data processing technology, civil technology, design drafting technology, mechanical technology

Rangely College, Rangely 81648
Public. John E. Roberts, pres.
Fred Struthers, tech. ed. chm.
Total enrolment: 230
Technician enrolment: 61
Accreditation: NCA
Admission: Dependent on program, generally high-school graduation
Electronics technology, dental hygiene

Southern Colorado State College,
Pueblo 81005
Public. J. Victor Hopper, pres.
Leland A. Benz, dean, voc.-tech. div.
Total enrolment: 4,865
Technician enrolment: 704
Accreditation: NCA
Admission: Residents, high-school graduation. Non-residents, high-school graduation and in upper ½ of graduating class. Technical programs, high-school graduation and in upper ⅔ of graduating class.
Agri-business technology, data processing technology, civil technology, electronics technology, nursing, instrumentation technology, metallurgical technology, airconditioning, heating, and refrigeration technology, automotive mechanics technology, mechanical technology, welding

Trinidad State Junior College,
Trinidad
Public. C. O. Banta, dean
Total enrolment: 850
Technician enrolment: 300
Accreditation: NCA, State Ed. Dept.
Civil technology, electronics technology, chemical technology, data processing technology, building construction technology, computer technology, nursing, engineering science technology, automotive technology, industrial drafting and design technology

CONNECTICUT

Bullard-Havens Technical School,
Evening Institute, Bridgeport
Public. F. Okula, supv.
Total enrolment: 297
Accreditation: State Ed. Dept.
Admission: High-school graduation and passing engineering aptitude test
Chemical technology*, metallurgical technology**, electronics technology*, mechanical technology**

Connecticut School of Electronics,
586 Boulevard, New Haven 06519
Private. Kenneth A. Titus, adm. dir.
Albert J. Marcarelli, tech. dir.
Total enrolment: 325
Technician enrolment: 325
Accreditation: NATTS, State Ed. Dept.
Admission: Day school applicants, high-school graduation. Evening school applicants, 2 yrs. of high school
Computer technology, commercial broadcast technology, electronic communications technology, electronics technology

E. C. Goodwain Technical School,
Evening Institute, New Britain
Public. K. Fogg, supv.
Total enrolment: 111
Accreditation: State Ed. Dept.
Admission: High-school graduation and passing engineering aptitude test
Electrical technology, electronics technology**, mechanical technology**

Eli Whitney Technical School,
Evening Institute, Hamden
Public. J. Higgiston, supv.
Total enrolment: 129
Accreditation: State Ed. Dept.
Admission: High-school graduation and passing engineering aptitude test
Civil and construction technology, electrical technology, electronics technology, mechanical technology

Hartford State Technical Institute,
401 Flatbush Ave., Hartford
Public. T. V. Raimondi, dir.
J. Volk, supv., Evening Institute
Total enrolment: 360
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Electrical technology**†, mechanical technology**†, tool technology†, data processing technology*

Harvard H. Ellis Regional Vocational Technical School,
P. O. Box 149, Danielson
Public. Alton P. Aldrich, dir.
Total enrolment: 350
Technician enrolment: 350

Accreditation: State Ed. Dept.
Electrical technology, electronics technology, industrial electronic technology, automotive technology, aviation maintenance technology, drafting technology, industrial drafting and design technology, machine tool technology, mechanical drafting technology

Henry Abbott Regional Vocational-Technical School,
Hayestown Ave., Danbury 06810
Public. Otto A. Truderung, supv.
Total enrolment: 600
Technician enrolment: 195
Accreditation: State Ed. Dept.
Admission: High-school graduation and passing of engineering aptitude test
Civil technology† computer technology†, electrical technology†, chemical technology†, machine tool technology†, mechanical technology

Horace C. Wilcox Regional Vocational-Technical School,
Oregon Rd., Meriden 06450
Public. Robert M. Dorsey, dir.
Edward J. Tonkowicz, supv. ad. ed.
Total enrolment: 341
Technician enrolment: 341
Accreditation: State Ed. Dept.
Admission: High-school graduation and engineering aptitude test
Civil technology†, electrical technology†, electro-mechanical technology†, electronics technology*, lithographic technology*, airconditioning, heating, and refrigeration technology*, automotive technology*, machine tool technology*†, mechanical technology†

J. M. Wright Technical School,
Evening Institute, Stamford
Public. E. Kelly, supv.
Total enrolment: 1,884
Technician enrolment: 596
Accreditation: State Ed. Dept.
Admission: High-school graduation, entrance examination
Electrical technology*, electro-mechanical technology*, electronics technology*, machine drafting and design*, machine tool technology*, mechanical technology*, metallurgical technology*

Manchester Community College,
Manchester 06040
Public. Frederick W. Lowe, Jr., pres.
Fred A. Ramey, Jr., dir.
Total enrolment: 1,100
Technician enrolment: 40
Accreditation: State Ed. Dept.
Admission: High-school graduation, placement tests
Data processing technology**, medical laboratory technology

Northwestern Connecticut Community College,
Park Pl. East, Winsted 06098
Public. Charles S. Scholes, pres.
Jerome I. Leventhal, tech. ed. chm.
Total enrolment: 750
Technician enrolment: 200
Admission: High-school graduation, CEEB
Agri-business technology, dental assistant, horticulture management

Norwalk State Technical Institute,
Richards Ave., Norwalk 06854
Public. Frank L. Juszli, dir.
Total enrolment: 1,452
Technician enrolment: 1,452
Accreditation: State Ed. Dept.
Admission: High-school graduation, entrance examination
Computer technology**, electrical technology**†, electro-mechanical technology**†, chemical technology**†, metallurgical technology**, mechanical technology**†, data processing technology**, manufacturing and tool technology**†

Quinnipiac College,
Mount Carmel Ave., Hamden 06518
Private. Nils G. Sahlin, pres.
Stanley S. Katz, chm., med. tech.
Total enrolment: 2,500
Technician enrolment: 138
Accreditation: NEA
Admission: High-school graduation, standing and admission examinations (usually SAT)
Medical laboratory technology**, medical records technology, medical technology**, cytology

Thames Valley State Technical Institute, 574 New London Turnpike, Norwich 06360
Public. Donald R. Welter, dir.
Total enrolment: 700
Technician enrolment: 700
Accreditation: State Ed. Dept.
Admission: High-school graduation, two yrs. math, one year laboratory science, SAT results
Data processing technology**, electrical technology**, chemical technology**, mechanical and production engineering technology**, mechanical technology**

Ward Technical Institute, University of Hartford, 315 Hudson St., Hartford 06105
Private. Douglas M. Fellows, adm. dir.
Roland F. Lescarbeau, dir. of training
Total enrolment: 400
Technician enrolment: 400
Accreditation: State Ed. Dept.
Admission: High-school graduation, two years algebra, one year physics for degree program; two years math, one year science for ind. tech. program
Computer technology, electro-mechanical technology, electronic communications technology, electronics technology, industrial electronic technology, instrumentation technology, industrial technology

Waterbury State Technical Institute,
1460 W. Main St., Waterbury 06708
Public. Kenneth W. Fogg, dir.
Total enrolment: 353
Technician enrolment: 353
Accreditation: State Ed. Dept.
Admission: High-school graduation, two units math, one unit physical science with lab, entrance examination
Computer technology, electrical technology, chemical technology, mechanical technology, tool and manufacturing technology

Windham Regional Technical School,
210 Birch St., Willimantic 06226
Public. Alfred F. Dorosz, dir.
Total enrolment: 387
Technician enrolment: 80
Accreditation: State Ed. Dept.
Admission: 95 I.Q., mechanical aptitude 50 percent, guidance counselor recommendation
Architectural drafting technology, electronics technology, mechanical drafting technology

DELAWARE

H. Fletcher Brown Technical High School, 14th & Market Sts.,
Wilmington 19801
Public. Leon F. Osinski, prin.
Accreditation: State Ed. Dept.
Electrical technology, electronics technology, nursing, chemical technology, drafting technology, mechanical technology

Sussex County Vocational-Technical Center, P. O. Box 351,
Georgetown 19947
Public. Robert L. Rathfon, dir.
Total enrolment: 742
Technician enrolment: 56
Accreditation: MSA
Admission: Must be in tenth grade and recommended by guidance counselor
Electronics technology*, mechanical technology

DISTRICT OF COLUMBIA

Capitol Institute of Technology,
3220—16th St., N.W.,
Washington 20010

Private. Elbert S. Maloney, pres.
Edward C. Norman, dean
Total enrolment: 600
Technician enrolment: 600
Admission: High-school graduation
Electronics technology†

Institute of Computer Technology, Inc., Suite 100, Watergate Office Bldg., 2600 Virginia Ave., N.W., Washington 20037
Private. Albert M. Kreger, pres.
Charles Agre, tech. ed. chm.
Total enrolment: 70
Technician enrolment: 70
Admission: Varies greatly with the course
Data processing technology*

FLORIDA

Adult and Vocational School, P. O. Box 666, Panama City 32401
Public. B. Harry Williams
Total enrolment: 2,033
Technician enrolment: 30
Accreditation: State Ed. Dept.
Electronics technology*

Central Florida Junior College, P. O. Box 1388, Ocala 32670
Public. Henry Goodlett, pres.
John L. Murphy, dean
Total enrolment: 1,200
Technician enrolment: 150
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation
Agri-business technology, construction technology, civil technology, surveying technology, electronics technology, nursing, design drafting technology, radiological health technology

Chipola Junior College, Marianna 32446
Public. N. L. Haven, pres.
Frederic L. Howell, dir., voc.-tech. ed.
Total enrolment: 1,200
Technician enrolment: 30
Accreditation: SA
Admission: High-school graduation from approved school and rank in upper 80 percent of Florida seniors
Electronics technology, industrial drafting and design technology

Daytona Beach Junior College, Daytona Beach
Public. Ed Ek, dir.
Total enrolment: 2,120
Technician enrolment: 258
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation
Architectural drafting technology, architectural engineering technology, building construction technology**, construction technology, civil technology, electronics technology**, industrial electronic technology**, nursing, graphic arts technology, automotive technology, design technology, drafting technology, industrial illustration technology, mechanical technology

Dixie Hollins High School, 4940-62 St. N., St. Petersburg 33709
Public. Kenneth Watson, prin.
William A. Hudson, asst. prin.
Total enrolment: 2,150
Technician enrolment: 60
Accreditation: SA
Admission: Varies with each course
Electronics technology, mechanical drafting technology

Dunedin High School, 1651 Pinehurst Rd., Dunedin
Public. H. R. Danford, prin.
Garland P. Kuntz, head voc.-tech. dept.
Total enrolment: 1,100
Technician enrolment: 67
Accreditation: SA
Electronics technology, automotive technology, drafting technology

Edison Junior College, Cypress Lake Rd., Fort Myers 33901
Public. David G. Robinson, pres.
A. H. Griffin, chm., eng. and tech. div.
Total enrolment: 1,423
Technician enrolment: 118
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation or GEDT
Data processing technology, building construction technology, drafting-design technology, civil engineering technology, electrical engineering technology

Embry-Riddle Aeronautical Institute, P. O. Box 2411, Daytona Beach 32015
Private. Jack R. Hunt, pres.
Marshall K. Powers, dean
Total enrolment: 750
Technician enrolment: 350
Accreditation: FAA
Admission: High-school graduation or equivalent
Aeronautical and astronautical (engineering) technology†, aviation maintenance technology, aviation technology

Escambia County Vocational Schools, P. O. Box 1470, Pensacola 32502
Public. James A. Barrineau, dir.
E. G. Holly, asst. supt.
Data processing technology, computer technology*, electronics technology, dental technology, nursing**, lithographic technology, airconditioning, heating, and refrigeration technology*, drafting technology**, food-processing technology*

Florida Agricultural and Mechanical University, Vocational-Technical Institute, Tallahassee
Public. M. S. Thomas, dir.
Total enrolment: 3,000
Technician enrolment: 140
Accreditation: SA
Admission: High-school graduation and SAT
Architectural drafting technology, building construction technology, electrical technology, electronic communications technology, industrial electronic technology, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology, mechanical drafting technology, printing technology

Florida College, Temple Terrace 33617
Private. James R. Cope, pres.
Accreditation: SA
Admission: High-school graduation or equivalent, three units in English, two units in social science, one unit in algebra
Agricultural engineering technology, commercial design technology, publications technology, architectural drafting technology, architectural engineering technology, building construction technology, structural engineering and design technology, electrical technology, electronics technology, dental technology, medical laboratory technology, medical technology, nursing, engineering science technology, graphic arts technology, drafting technology, industrial drafting and design technology, mechanical drafting technology

Florida Junior College at Jacksonville, 1450 Flagler Ave., Jacksonville 32207
Public. J. Bruce Wilson, pres.
Ray Bittle, dir. tech. ed.
Total enrolment: 2,840
Technician enrolment: 100
Data processing technology, electronics technology, nursing, design technology, drafting technology

Florida Keys Junior College, 801 Fort St., Key West 33040
Public. Merrill A. Symonds, pres.
Alfredo G. de los Santos, Jr., dean
Total enrolment: 1,212
Accreditation: State Ed. Dept.
Admission: High-school graduation, GED diploma with average score of 45 and no individual score of 40
Nursing, design technology, drafting technology

George T. Baker Aviation School, 3275 N. W. 42nd Ave., Miami 33142
Public. W. F. Smith, supv.
Total enrolment: 600
Technician enrolment: 600
Accreditation: SA

Admission: In top 50 percentile of high-school graduating class in all subject areas
Aviation maintenance technology**

Gulf Coast Junior College,
West Highway 98, Panama City 32401
Public. Richard E. Morley, pres.
Total enrolment: 1,560
Technician enrolment: 145
Accreditation: SA
Admission: High-school graduation
Drafting design technology, electronics technology, health technology, medical records technology, nursing, chemical technology, design technology, drafting technology, marine technology

Hampton Junior College,
1214 N. W. 16th Ave., Ocala
Public. Lawrence J. Walker, dir. of voc., tech., and ad. ed.
Total enrolment: 750
Technician enrolment: 50
Accreditation: State Ed. Dept.
Admission: High-school graduate with special courses in math and science
Building construction technology, electrical technology, electronics technology, airconditioning, heating, and refrigeration technology, drafting technology, industrial drafting and design technology

Indian River Junior College,
3209 Virginia Ave., Fort Pierce 33450
Public. Maxwell C. King, pres.
William Sigurdson, coord. of tech. ed.
Total enrolment: 988
Technician enrolment: 396
Accreditation: SA
Admission: High-school certificate of completion
Citrus technology, electronics technology, nursing, graphic arts technology

Jones College, Arlington Expressway, Jacksonville 32211
Private. Jack H. Jones, pres.
Kathryn M. Camp, tech. ed. chm.
Total enrolment: 748
Technician enrolment: 151
Admission: High-school graduation or equivalent
Data processing technology, computer technology, medical records technology

Junior College of Broward County,
3501 S. W. Davie Rd., Fort Lauderdale 33314
Public. Myron R. Blee, pres.
Edward F. Kotchi, dean of tech. ed.
Total enrolment: 5,220
Technician enrolment: 1,119
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation and ability to do college level work
Data processing technology, building construction technology, electronics technology, medical records technology, medical assisting technology, aviation technology, design technology, drafting technology, police science and criminology, ornamental horticulture

Lake City Junior College and Forest Ranger School,
Route 1, Box 45, Lake City 32055
Public. Herbert E. Phillips, pres.
Herbert B. Attaway, Jr., dean, tech. div.
Total enrolment: 1,083
Technician enrolment: 200
Accreditation: SA
Admission: High-school graduation and senior placement test
Civil technology, nursing, forest products technology, automotive technology, ornamental horticulture technology, timber harvesting technology

Lake Sumter Junior College, Leesburg
Public. Marvin M. Jones, chm., tech.-voc. ed. div.
Total enrolment: 690
Technician enrolment: 5
Accreditation: State Ed. Dept.
Admission: High-school graduation
Architectural drafting technology, design technology, drafting technology, industrial drafting and design technology

Lewis M. Lively Area Vocational-Technical School, Tallahassee 32301
Public. Evelyn K. Ciskos, dir.
Philip Bliss, prin.
Total enrolment: 750
Technician enrolment: 30
Accreditation: State Ed. Dept.
Admission: Grade level placement test, GATB, capable of profiting by instruction
Data processing technology

Manatee Junior College,
5840-26th St., W. Bradenton 33505
Public. Samuel R. Neel, Jr., pres.
Burnette R. Tinsley, Jr., dir., tech. ed.
Total enrolment: 1,867
Technician enrolment: 414
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation or equivalent, 3 yrs. math, satisfactory scores on aptitude and abilities test, and interview
Building construction technology, civil technology, electrical technology, electromechanical drafting technology, electronic drafting technology, nursing**, mechanical drafting technology, aerospace pilot technology, data processing technology

Mary Karl Vocational Division, Daytona Beach Junior College,
P. O. Box 1111, Daytona Beach 32015
Public. Hal Massey, dir.
Herman L. Lovett, coord.
Total enrolment: 1,560
Technician enrolment: 78
Admission: Minimum age of 16
Electronics technology

Massey Technical Institute of Jacksonville, Inc.,
148 E. 7th St., Jacksonville 32206
Private. C. A. Barringer, pres.
R. M. Wasdin, dean
Total enrolment: 400
Technician enrolment: 400
Accreditation: NATTS
Admission: High-school graduation
Data processing technology, architectural drafting technology, architectural engineering technology, computer technology, electro-mechanical drafting technology, electronic communications technology, electronic drafting technology, electronics technology, industrial electronic technology, design technology, drafting technology, industrial drafting and design technology, industrial illustration technology, mechanical drafting technology

Miami Central High School,
1781 N. W. 95 St., Miami 33147
Public. Tom Carter, prin.
John Coursey, asst. prin.
Total enrolment: 1,400
Technician enrolment: 90
Accreditation: SA
Admission: Mental ability score of 110—60th percentile or more on math test—60th percentile or more on reading test
Data processing technology**, electronics technology, drafting technology

Miami-Dade Junior College,
11380 N. W. 27th Ave., Miami 33167
Public. George Mehallis, dir.
Total enrolment: 21,000
Technician enrolment: 2,043
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation and selective test scores
Data processing technology**, architectural drafting technology**, building construction technology, construction technology, civil technology**, highway technology, structural engineering and design technology, surveying technology**, computer technology**, commercial broadcast technology, electronics technology**, nursing**, sanitary engineer technology, graphic arts technology**, instrumentation technology, airconditioning, heating, and refrigeration technology, aviation technology, drafting technology**, mechanical and production engineering

technology, mechanical technology**, electrical distribution technology, police science and criminology**, mortuary science

MID-FLORIDA TECHNICAL INSTITUTE,
2908 W. Oak Ridge Rd.,
Orlando 32809
Public. John M. Lockman, dir.
Total enrolment: 1,400
Accreditation: State Ed. Dept.
Admission: Technical courses by test
Medical laboratory technology, lithographic technology, drafting technology

NORTH FLORIDA JUNIOR COLLEGE,
Madison 32340
Public. M. Hamilton, pres.
LeHarve F. Young, dir. ad. center
Total enrolment: 1,140
Technician enrolment: 175
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation
Data processing technology, building construction technology, civil technology, industrial drafting and design technology

OKALOOSA-WALTON JUNIOR COLLEGE,
Valparaiso
Public. J. E. McCracken, pres.
Lewis D. Griner, coord.
Technician enrolment: 175
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Data processing technology, architectural drafting technology, electrical technology, electronics technology, air-conditioning, heating, and refrigeration technology, automotive technology, aviation maintenance technology, design technology, drafting technology, industrial drafting and design technology, mechanical drafting technology

ORANGE COUNTY VOCATIONAL SCHOOL,
325 N. Palmetto Ave., Orlando
Public. J. R. Leach, prin.
Total enrolment: 700
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: Standard vocational
Automotive technology, aeronautical technology, drafting technology, architectural drafting technology, electrical technology*, electronics technology**

PALM BEACH JUNIOR COLLEGE,
4200 Congress Ave., Lake Worth 33460
Public. Paul W. Graham, dean of instruc.
Don C. Whitmer, chm., eng.-tech. dept.
Total enrolment: 4,000
Technician enrolment: 400
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation or GED certificate
Data processing technology, architectural drafting technology, surveying technology, computer technology, commercial broadcast technology, electronics technology, dental technology, medical laboratory technology, nursing, airconditioning, heating, and refrigeration technology, drafting technology

PENSACOLA JUNIOR COLLEGE,
1000 College Blvd., Pensacola 32504
Public. T. Felton Harrison, pres.
William Moore, vice-pres. for center for ad. studies
Total enrolment: 4,418
Technician enrolment: 340
Accreditation: SA
Admission: High-school graduation and minimum admission scores on SCAT
Architectural drafting technology, electronics technology, nursing

POLK JUNIOR COLLEGE,
P. O. Box 836, Bartow 33830
Public. Frederick T. Lenfestey, pres.
James E. Harris, dir. of occupational ed.
Total enrolment: 2,250
Technician enrolment: 477
Accreditation: State Ed. Dept.
Admission: Open door policy
Agri-business technology**, agricultural engineering technology**, soils technology**, data processing technology**, architectural drafting technology**, architectural engineering technology**, building construction technology**, construction technology**, civil technology**, highway technology*, structural engineering and design technology*, surveying technology*, aviation electronics technology*, computer technology*, commercial broadcast technology*, electrical technology*, electromechanical drafting technology*, electronic drafting technology*, electronics technology*, industrial electronic technology*, medical laboratory technology**, medical records technology*, nursing**, chemical technology**, engineering science technology**, instrumentation technology**, metallurgical technology*, combustion power technology*, internal combustion (engineering) technology*, design technology*, drafting technology**, fluid power (engineering) technology*, hydraulics technology*, industrial drafting and design technology*

ST. JOHNS RIVER JUNIOR COLLEGE,
St. Johns Ave., Palatka 32077
Public. Paul M. Starnes, dir.
Total enrolment: 1,600
Technician enrolment: 175
Accreditation: SA
Data processing technology, civil technology, electronics technology, design drafting technology

ST. PETERSBURG JUNIOR COLLEGE,
P. O. Box 13489, St. Petersburg 33733
Public. M. M. Bennett, pres.
William L. Bolin, dean, div. of tech. ed.
Total enrolment: 8,600
Accreditation: SA
Admission: High-school graduation
Data processing technology, electronics technology†, dental technology, nursing, mechanical technology

SANTA FE JUNIOR COLLEGE,
723 W. University, Gainesville 32601
Public. Joseph W. Fordyce, pres.
Robert Shepack, tech. ed. chm.
Total enrolment: 1,750
Accreditation: State Ed. Dept.
Admission: High-school graduation
Architectural drafting technology, building construction technology, construction technology, civil technology, electrical technology, electronic drafting technology, electronics technology, design technology, drafting technology, industrial drafting and design technology, industrial illustration technology

SEMINOLE JUNIOR COLLEGE, Sanford 32771
Public. Earl Weldon, pres.
R. A. Schreiber, dean
Total enrolment: 800
Technician enrolment: 20
Accreditation: State Ed. Dept.
Admission: High-school graduation
Drafting technology

TAMPA TECHNICAL INSTITUTE,
209 N. Franklin, Tampa 33602
Private. E. Begue, pres.
John Benanti, dir.
Total enrolment: 175
Technician enrolment: 175
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Architectural drafting technology, architectural engineering technology, structural engineering and design technology, aviation electronics technology, computer technology, commercial broadcast technology, electronic communications technology, electronic drafting technology, electronics technology, industrial electronic technology, instrumentation technology, nucleonics, design technology, drafting technology, industrial drafting and design technology, industrial illustration technology, industrial technology, mechanical drafting technology, mechanical technology

Technical Education Center,
6100-154th Ave. N., Clearwater 33516
Public. John W. Busman, dir.
Total enrolment: 661
Technician enrolment: 357
Accreditation: State Ed. Dept.
Admission: High-school graduation
Horticulture technology, architectural drafting technology**, electro-mechanical drafting technology**, electronic drafting technology**, microminiaturization technology**, airconditioning, heating, and refrigeration technology**, drafting technology**, mechanical drafting technology**, mechanical technology**, food-processing technology

Tomlinson Adult Education Center,
296 Mirror Lake Dr., St. Petersburg
Public. J. C. Hill, prin.
Total enrolment: 421
Technician enrolment: 37
Admission: 17 yrs. or older, passing of GATB tests, high-school graduation necessary for some courses, tenth grade necessary for others
Drafting technology**, electronics technology**

GEORGIA

Abraham Baldwin College, ABAC
Station, Tifton 31794
Public. J. Clyde Driggers, pres.
Loyal V. Norman, academic dean
Total enrolment: 1,407
Technician enrolment: 301
Accreditation: SA
Admission: High-school graduation and predicted freshman ave. grade of C or better
Agri-business technology, agricultural engineering technology, data processing technology, nursing

Albany Area Vocational-Technical School, 1800 S. Slappey Dr.,
Albany 31705
Public. Howard D. Waters, dir.
Total enrolment: 950
Technician enrolment: 90
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, satisfactory GATB score
Data processing technology*, computer technology*, electrical technology, electronics technology, mechanical technology

Albany Junior College,
2400 Gillionville Rd., Albany 31705
Public. B. R. Tilley, pres.
Marm M. Harris, dean of instruc.
Total enrolment: 620
Admission: High-school graduation or GEDT and CEEB SAT
Nursing, police administration

Athens Area Technical-Vocational School,
Highway U.S. 29 N., Athens 30601
Public. Robert G. Shelnutt, dir.
Total enrolment: 650
Technician enrolment: 227
Accreditation: State Ed. Dept.
Admission: High-school graduation, admissions test, and background for desired course
Data processing technology**, electronics technology**, airconditioning, heating, and refrigeration technology**, automotive technology**, drafting technology**, mechanical technology**

Atlanta Area Technical School,
1560 Stewart Ave., S.W., Atlanta 30310
Public. Robert A. Ferguson, dir.
Total enrolment: 2,400
Technician enrolment: 600
Admission: High-school graduation or equivalent
Commercial design technology, data processing technology, architectural drafting technology, construction technology, civil technology, highway technology, aviation electronics technology, computer technology, electrical technology, electro-mechanical technology, electronics technology, dental technology, chemical technology, graphic arts technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, aviation maintenance technology, design technology, drafting technology, machine tool technology, mechanical and production engineering technology, mechanical drafting technology, food service administration

Augusta Area Technical School,
2025 Lumpkin Rd., Augusta 30906
Public. George M. Hardy, dir.
Total enrolment: 1,800
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: Aptitude test, interview by admissions director and instructor
Highway technology, electrical technology, electronics technology, instrumentation technology, industrial drafting and design technology, food service technology

Brunswick Junior College,
Brunswick 31520
Public. Earl F. Hargett, pres.
Denton R. Coker, dean of academic affairs
Total enrolment: 614
Technician enrolment: 37
Admission: High-school graduation, SAT
Nursing, chemical technology

Columbus Area Vocational-Technical School,
4460 River Rd., Columbus 31904
Public. A. Perry Gordy, dir.
Total enrolment: 800
Technician enrolment: 190
Accreditation: State Ed. Dept.
Admission: High-school graduation, mini mum of 1 yr. of math and 1 yr. o science, satisfactory score on GATB
Data processing technology**, electronic technology**, machine tool technol ogy**, mechanical technology**

Coosa Valley Vocational-Technical School,
112 Hemlock St., Rome 30161
Public. C. M. Culberson, dir.
A. E. Jones, asst. dir.
Total enrolment: 569
Technician enrolment: 180
Accreditation: State Ed. Dept.
Admission: High-school graduation, sati factory score on aptitude test
Data processing technology**, electric technology**, electronics technology** drafting technology**, mechanical an production engineering technology**

Dalton Junior College, Dalton 30720
(Opening September 1967)
Public. Arthur M. Gignilliat, pres.
Benjamin R. Wygal, academic dean
Admission: Essentially open door polic SAT scores required
Data processing technology, medical la oratory technology, nursing

DeKalb Area Technical School,
495 N. Indian Creek Dr.,
Clarkston 30021
Public. James F. Clark, dir.
Total enrolment: 657
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: High-school graduation, a ceptable scores on GATB, prerequisi courses in math
Data processing technology**, electric technology**, electronics technology* chemical technology, instrumentati technology, airconditioning, heatin and refrigeration technology**, aut diesel technology**, automotive tec nology**, drafting technology**, m chine tool technology**, mechanic technology**

Griffin-Spalding County Area Vocational-Technical School,
P. O. Box 131, Griffin
Public. Edwin V. Langford, Sr., dir.
Total enrolment: 150
Technician enrolment: 30
Admission: High-school graduation, qu ifying score on GATB

Electronics technology**, mechanical drafting technology**

Lanier Area Technical School,
P. O. Box 58, Oakwood 30566
Public. John H. Lloyd, Jr., dir.
Total enrolment: 200
Admission: 16 yrs. of age and preferably high-school graduates; will accept students who have completed 10th grade but high-school graduates will receive preference
Data processing technology, electrical technology, industrial electronic technology, airconditioning, heating, and refrigeration technology, automotive technology, machine tool technology, welding

Macon Area Vocational-Technical School,
940 Forsyth St., Macon 31201
Public. Benjamin C. Brewton, Jr., dir.
Total enrolment: 350
Technician enrolment: 46
Accreditation: State Ed. Dept.
Admission: High-school graduation preferred, entrance exam
Civil technology, electronics technology, drafting technology, mechanical technology

Marietta-Cobb Area Vocational Technical School, 210 S. Cobb Dr., Marietta 30060
Public. L. Lee Leverette, dir.
Total enrolment: 1,122
Technician enrolment: 320
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, qualifying score on GATB
Data processing technology, architectural drafting technology, electrical technology, electronics technology, mechanical technology

Middle Georgia College, Cochran 31014
Public. Louis C. Alderman, Jr., pres.
John T. Morris, dean
Total enrolment: 1,511
Technician enrolment: 25
Accreditation: SA
Admission: High-school graduation, CEEB test scores, personal interview
Agri-business technology, agricultural engineering technology, commercial design technology, data processing technology, architectural drafting technology, architectural engineering technology, civil technology, surveying technology, computer technology, dental technology, health technology, medical laboratory technology, medical records technology, chemical technology, engineering science technology, graphic arts technology, drafting technology, mechanical drafting technology

Monroe Area Vocational-Technical School, Albany
Public. B. White, dir.
Total enrolment: 254
Technician enrolment: 26
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, passing of entrance examination
Electronics technology

Moultrie Area Vocational-Technical School,
P. O. Box 399, Moultrie 31768
Public. W. W. Hobbs, dir.
Total enrolment: 325
Technician enrolment: 110
Accreditation: State Ed. Dept.
Admission: High-school graduation or GEDT certificate and qualifying score on GATB
Electronics technology†, design technology†, drafting technology†, highway engineering technology†

Muscogee Area Vocational-Technical School,
Courtland Ave., Route 2, Columbus
Public. J. H. Smith, dir.
Total enrolment: 147
Technician enrolment: 13
Accreditation: State Ed. Dept.
Admission: High-school graduation, 18 yrs. or older
Electronics technology

North Georgia Technical and Vocational School, Clarkesville
Public. H. O. Carlton, dir.
Total enrolment: 1,007
Technician enrolment: 268
Accreditation: ASCP, State Ed. Dept.
Admission: High-school graduation, acceptable GATB scores
Electronics technology, data processing technology, building construction technology*, highway technology*, electrical technology*, medical laboratory technology, design technology, airconditioning, heating, and refrigeration technology

Savannah Area Vocational-Technical School, 101 Wheathill Rd., Garden City 31408
Public. C. W. Coons, dir.
A. L. Pollock, asst. dir.
Total enrolment: 375
Technician enrolment: 129
Admission: High-school graduation or GEDT equivalency
Civil and highway technology, electrical technology, electronics technology, chemical technology, forest products technology, instrumentation technology, design drafting technology, mechanical technology

Savannah Vocational School,
214 W. Bay St., Savannah
Public. J. Lytjen, dir.
Total enrolment: 2,500
Technician enrolment: 150
Admission: High-school graduation or GEDT equivalent
Electronics technology**

South Georgia College, Douglas 31533
Public. Pope A. Duncan, pres.
I. D. Engram, dean
Total enrolment: 1,040
Accreditation: SA
Admission: High-school graduation with a C average plus SAT
Data processing technology*, medical laboratory technology, nursing

South Georgia Technical and Vocational School, Americus
Public. H. P. Odom, dir.
Total enrolment: 500
Technician enrolment: 200
Admission: High-school graduation or equivalent, 18 yrs. or older, personal interview
Aeronautical technology, automotive technology, electrical technology, electronics technology, mechanical technology, diesel technology

Southern Technical Institute,
Marietta 30060
Public. H. L. McClure, dir.
G. L. Crawford, dean
Total enrolment: 1,245
Technician enrolment: 1,245
Accreditation: SA
Admission: High-school graduation, 4 units English, 2 units algebra, one unit geometry, 2 units science, CEEB—SAT
Architectural engineering technology†, highway technology†, structural engineering and design technology†, computer and control technology†, electrical engineering technology†, electronics technology†, airconditioning engineering technology†, industrial engineering technology†, mechanical engineering technology†, gas engineering technology†, textile engineering technology†

Swainsboro Area Vocational-Technical School,
201 Kite Rd., Swainsboro 30401
Public. M. D. Boatwright, dir.
Ben E. Nash, head, electronics dept.
Total enrolment: 250
Technician enrolment: 60
Accreditation: State Ed. Dept.
Admission: High-school graduation and GATB
Electronics technology

Thomas Area Technical School,
P. O. Box 257, Thomasville 31792
Public. Paul G. Sewell, dir.
Total enrolment: 660
Technician enrolment: 88
Accreditation: State Ed. Dept.
Admission: High-school graduation preferred (required in technologies and business ed.), satisfactory score on GATB
Highway technology*, electronics technology, drafting and design technology

Troup County Area Vocational Technical School,
Rt. 1, Whitesville Rd., LaGrange 30240
Public. Jack H. Cox, dir.
William R. Stanley, instructor, electronics tech.
Total enrolment: 100
Technician enrolment: 32
Accreditation: State Ed. Dept.
Admission: High-school graduation with at least 3 units in math—1st and 2nd yr. algebra and geometry, 16 yrs. old, acceptable score on entrance test
Electronics technology**

Upson County Area Vocational-Technical School, P. O. Box 6,
Highway 19 South, Thomaston 30286
Public. E. G. McCants, dir.
Total enrolment: 320
Technician enrolment: 65
Accreditation: State Ed. Dept.
Admission: High-school graduation and pass entrance test
Highway technology, electronics technology, design drafting technology

Valdosta Area Vocational-Technical School, Rt. 1, Box 211, Valdosta
Public. Lamar Holloway, dir.
Total enrolment: 150
Technician enrolment: 50
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Electrical technology**, electronics technology**, nursing, mechanical drafting technology

Walker County Technical School,
Rock Spring 30739
Public. Dea O. Pounders, dir.
Total enrolment: 300
Technician enrolment: 160
Accreditation: State Ed. Dept.
Admission: High-school graduation, qualifying test scores on GATB
Civil highway technology*, electronics technology, airconditioning, heating, and refrigeration technology, automotive technology, design drafting technology, machine tool technology

Walton Area Vocational-Technical School, 401 Wolfe St., Thomasville
Public. Edward H. Smith, dir.
Total enrolment: 168
Accreditation: State Ed. Dept.
Admission: High-school graduation, satisfactory score on GATB test, satisfactory rating by screening committee as a result of interview
Building construction technology, automotive technology

HAWAII

Church College of Hawaii, Laie 96762
Private. Owen J. Cook, pres.
Gilbert L. Haggen, dept. chm.
Total enrolment: 975
Technician enrolment: 157
Accreditation: WA
Admission: High-school graduation
Electronics technology, automotive technology

Hawaii Technical School,
1175 Manono St., Hilo 96720
Public. Mitsugu Sumada, dir.
Total enrolment: 362
Technician enrolment: 57
Accreditation: State Ed. Dept.
Admission: High-school graduation
Data processing technology, architectural drafting technology, electronics technology

Honolulu Community College,
874 Dillingham Blvd., Honolulu 96817
Public. John W. Nothom, dir.
Total enrolment: 629
Technician enrolment: 118
Accreditation: State Ed. Dept.
Admission: High-school graduation or 18 yrs. of age
Architectural drafting technology, civil technology, electronic communications technology

Kapiolani Community College,
620 Pensacola St., Honolulu 96814
Public. Raymond Y. C. Won, dir.
Harriet Nakamoto, dean of instruc.
Total enrolment: 905
Accreditation: U. of Hawaii
Data processing technology, dental technology

Kauai Community College,
P. O. Box 1547, Lihue 96766
Public. Kiyoshi Kubota, dir.
Total enrolment: 240
Technician enrolment: 105
Admission: High-school graduation or over 18 yrs. of age
Architectural drafting technology, building construction technology, automotive technology, welding technology

Maui Community College,
310 Kaahumanu Ave., Kahului 96732
Public. Donald C. Bridgman, dir.
Gerald Ellis, dean of instruc.
Total enrolment: 300
Technician enrolment: 300
Admission: High-school graduation or 18 yrs. of age or older and able to profit from instruction
Architectural drafting technology, building construction technology, automotive technology, machine tool technology, sheetmetal technology

IDAHO

Boise College, College Blvd., Boise 83701
Public. W. L. Gottenberg, acting pres.
George H. Bridges, Jr., dir. of voc.-tech. ed.
Total enrolment: 2,900
Technician enrolment: 115
Accreditation: NWA
Admission: GATB, personal interview, physical examination record card
Commercial design technology**, data processing technology**, highway technology*, surveying technology*, computer technology**, electro-mechanical drafting technology**, industrial electronic technology**, dental technology, nursing**, automotive technology, design technology**, drafting technology**, industrial drafting and design technology**, machine tool technology, mechanical drafting technology, horticulture

College of Southern Idaho, Area Vocational Education School,
1300 Kimberly Rd., Twin Falls 83301
Public. Wayne L. Rodgers, dir.
Admission: High-school graduation or equivalent (GEDT), GATB, high-school transcript
Agri-business technology**, data processing technology*, construction technology*, highway technology*, surveying technology*, electrical technology*, electronic communications technology*, industrial electronic technology*, medical records technology*, medical technology*, airconditioning, heating, and refrigeration technology*, auto-diesel technology*, automotive technology, fire-protection technology*, agricultural equipment technology**, law enforcement**

Idaho State University, School of Trade and Technical Education,
Tenth and Terry, Pocatello
Public. Jack L. Rucker, dir.
Total enrolment: 4,300
Technician enrolment: 600

Accreditation: NWA
Admission: GATB
Soils technology, civil technology, electronics technology, instrumentation technology**, industrial drafting and design technology**

Lewiston Independent School District No. 1, Lewiston
Public. A. L. Smith, supt.
Total enrolment: 5,500
Technician enrolment: 210
Accreditation: NWA
Automotive technology, electrical technology

North Idaho Junior College, Coeur d'Alene 83814
Public. P. A. Christian, pres.
Clarence Haught, chm., tech. ed.
Total enrolment: 860
Technician enrolment: 140
Accreditation: NWA
Admission: High-school graduation or equivalent
Architectural drafting technology, electromechanical technology, industrial electronic technology, automotive technology, drafting technology, industrial drafting and design technology, mechanical drafting technology, forestry technology

Ricks College, Rexburg 83440
Private. John L. Clarke, pres.
Marion G. Forsyth, chm., div. of tech. ed.
Total enrolment: 2,951
Technician enrolment: 150
Accreditation: NWA
Admission: High-school graduation; 19 yrs. of age or older may enter without high-school graduation by special permission
Building construction technology, electronic communications technology, industrial electronic technology, nursing, automotive technology, drafting technology, welding technology

ILLINOIS

Aero-Space Institute, 154 E. Erie St., Chicago 60611
Private. Alfred F. Stott, pres.
Total enrolment: 75
Technician enrolment: 15
Accreditation: State Ed. Dept.
Admission: High-school graduation, 1 yr. algebra, 1 yr. science
Aeronautical and astronautical (engineering) technology

Allied Institute of Technology, 1338 S. Michigan Ave., Chicago
Private. H. Lebeson, pres.
Total enrolment: 2,199
Technician enrolment: 903
Accreditation: State Ed. Dept.
Admission: Four yrs. of high school or equivalent in industrial experience
Automotive technology**, airconditioning and heating technology**, drafting technology**, industrial technology**, machine tool technology**, design technology**, industrial drafting and design technology**, mechanical and production engineering technology**, mechanical drafting technology**

American Academy of Medical Technology, 189 W. Madison St., Chicago 60602
Private. Arthur N. Davis, pres.
Stephen L. Ragno, dean
Total enrolment: 160
Technician enrolment: 160
Accreditation: American Medical Technologists
Admission: High-school graduation or equivalent (GEDT)
Medical laboratory and X-ray technology

Belleville Junior College, Belleville
Public. K. L. Edwards, dean
Accreditation: NCA, State Ed. Dept.
Admission: High-school graduation
Architectural and civil technology, chemical technology, electrical technology, electronics technology, engineering technology, industrial technology

Black Hawk College, 1001—16th St., Moline 61265
Public. Alben E. Reid, pres.
Ronald F. Moon, dir.
Total enrolment: 2,540
Technician enrolment: 139
Accreditation: NCA, State Ed. Dept.
Admission: Open door policy
Data processing technology, electronics technology, nursing, chemical technology, industrial drafting and design technology*, machine tool technology*, mechanical and production engineering technology, mechanical technology, welding*

Bloom Community College, 10th St. and Dixie Highway, Chicago Heights 60411
Public. Richard G. Sherman, pres.
N. A. Petersanti, dir. of voc.-tech. ed.
Total enrolment: 1,678
Technician enrolment: 191
Accreditation: NCA
Admission: High-school graduation
Computer technology, electronic communications technology**, dental technology, dental hygiene, nursing, mechanical technology**

Canton Community College, 102 E. Elm St., Canton 61520
Public. Hearl Bishop, dean of the college
Edwin Fitzgibbon, dean of tech. ed.
Total enrolment: 1,031
Technician enrolment: 115
Accreditation: State Ed. Dept.
Admission: GATB
Agricultural machine technology, agricultural management technology, data processing technology, civil technology, highway technology, electrical technology, machine design technology

Central YMCA Community College, 211 W. Wacker Dr., Chicago 60606
Private. Donald A. Canar, executive dean
Richard E. Sweitzer, dean
Total enrolment: 3,500
Technician enrolment: 150
Accreditation: State Ed. Dept.
Admission: High-school graduation or pass GEDT
Data processing technology, building construction technology

Chicago City College, Bogan Campus, 3939 W. 79th St., Chicago 60652
Public. Sydney Titelbaum, dean
Judd Miller, chm., tech. ed.
Total enrolment: 4,095
Technician enrolment: 30
Accreditation: NCA
Admission: High-school graduation
Data processing technology

Chicago City College, Fenger Campus, 11220 S. Wallace St., Chicago 60628
Public. Doyle O. BonJour, dean
Total enrolment: 1,757
Accreditation: NCA
Admission: High-school graduation
Agri-business technology, data processing technology, architectural drafting technology, dental technology, medical laboratory technology, medical technology, nursing, chemical technology, engineering science technology, industrial drafting and design technology

Chicago City College, Loop Campus, 64 E. Lake St., Chicago 60601
Public. David H. Heller, dean
Helmut Meyerbach, asst. dean
Total enrolment: 6,969
Technician enrolment: 386
Accreditation: NCA, Illinois Junior College Board
Admission: High-school graduation
Data processing technology**

Chicago City College, Southeast Campus, 8600 S. Anthony St., Chicago 60617
Public. Chester Pachucki, dean
Walter Komiak, dir.

Total enrolment: 3,600
Technician enrolment: 450
Accreditation: NCA
Admission: High-school graduation; math and science ability
Data processing technology**, civil technology**, highway technology**. structural engineering and design technology**, surveying technology**, computer technology**, electronics technology**, industrial electronic technology**, chemical technology**, instrumentation technology**, metallurgical technology**, mechanical drafting technology**, mechanical technology**, prosthetics technology**

CHICAGO CITY COLLEGE, WRIGHT CAMPUS,
3400 N. Austin Ave., Chicago 60634
Public. Ernest V. Clements, dean
Theodore S. Sunko, asst. dean
Total enrolment: 8,090
Technician enrolment: 366
Accreditation: NCA
Admission: High-school graduation
Data processing technology, architectural drafting technology, electronics technology, design technology, drafting technology, industrial drafting and design technology, mechanical technology

CHICAGO TECHNICAL COLLEGE, 2000 S. Michigan Ave., Chicago 60616
Private. L. G. Morey, pres.
Total enrolment: 1,309
Technician enrolment: 263
Accreditation: State Ed. Dept.
Admission: High-school graduation with credits in math, science, and mechanical drawing
Civil technology, electrical technology, architectural technology, mechanical technology

COLLEGE OF DU PAGE, R. R. #2,
Naperville (Opening September 1967)
Public. Rodney Berg, pres.
Total enrolment: 2,500 (est.)
Technician enrolment: 400 (est.)
Accreditation: Illinois Junior College Board
Admission: High-school graduation
Data processing technology, electrical technology, electronics technology, mechanical drafting technology

COMMUNITY HIGH SCHOOL, District 123, 1717—17th St., North Chicago 60064
Public. Wm. B. Snodgrass, supv.
Total enrolment: 1,190
Technician enrolment: 125
Accreditation: State Ed. Dept.
Admission: Special testing for each area or selection by industry
Data processing technology*, computer technology*, electrical technology*, mechanical drafting technology*

COYNE ELECTRONICS INSTITUTE,
1501 W. Congress Parkway,
Chicago 60607
Private. Bennett W. Cooke, Jr., pres.
John P. Hanan, chm., tech. ed.
Total enrolment: 1,000
Technician enrolment: 200
Electronics technology

DANVILLE JUNIOR COLLEGE,
2000 E. Main St., Danville 61832
Public. Mary Miller, pres.
Robert E. Griggs, dir.
Total enrolment: 1,607
Technician enrolment: 250
Accreditation: Illinois Junior College Board
Admission: High-school graduation or equivalent with math and science background
Data processing technology**, electronics technology**, metallurgical technology*, automotive technology*, machine tool technology*, mechanical and production engineering technology*, mechanical technology**, production agriculture, agricultural mechanics**, ornamental horticulture, police science**

DECATUR PUBLIC SCHOOLS,
101 W. Cerro Gordo St., Decatur 62523
Public. D. L. Young, coord., ad.-post-high ed.
Total enrolment: 5,000
Accreditation: State Ed. Dept.
Admission: High-school graduation, 2 yrs. math, entrance test
Data processing technology**†, industrial electronic technology**†, nursing**

DEVRY INSTITUTE OF TECHNOLOGY,
4141 Belmont Ave., Chicago 60641
Private. O. I. Thompson, pres.
J. J. Gershon, dean
Total enrolment: 3,015
Technician enrolment: 3,015
Admission: High-school graduation
Computer technology**†, commercial broadcast technology**†, electronic communications technology**†, electronic drafting technology†, electronics technology†, industrial electronic technology**†, microminiaturization technology*, instrumentation technology**†, nucleonics†

DUNBAR VOCATIONAL HIGH SCHOOL,
3000 S. Park Way, Chicago
Public. J. J. Dixon, prin.
Total enrolment: 2,165
Technician enrolment: 11
Accreditation: NCA
Admission: High-school graduation with 1 yr. physics, 2 yrs. drafting, 2½ yrs. math
Aviation electronic technology

EAST ALTON-WOOD RIVER AREA TECHNICAL INSTITUTE, 777 N. Wood River Ave., Wood River 62095
Public. Nels Havens, supt.
W. G. Stevenson, dir.
Total enrolment: 1,380
Technician enrolment: 49
Accreditation: NCA, State Ed. Dept.
Admission: High-school graduation or equivalent with basic math and science background
Industrial electronic technology**

ELECTRONIC DATA PROCESSING SCHOOL,
Peoria Board of Education, 3202 N. Wisconsin Ave., Peoria 61603
Public. Roland W. Sanders, supv.
Total enrolment: 60
Technician enrolment: 60
Accreditation: State Ed. Dept.
Admission: High-school graduation, min. 1 yr. of algebra, GATB
Data processing technology**, computer technology**, electronic communications technology**, electronics technology**

ELECTRONICS TECHNICAL INSTITUTE OF ILLINOIS, INC.,
608 S. Dearborn St., Chicago 60605
Private. Harold M. Rabin, pres.
G. A. Rotolo, dir.
Total enrolment: 175
Technician enrolment: 140
Admission: High-school graduation
Electronic drafting technology, electronics technology, airconditioning, heating, and refrigeration technology

FREEPORT COMMUNITY COLLEGE,
511 W. Stephenson, Freeport 61032
Public. Charles Jenkins, dean
Lawrence Boyce, dir. of tech. ed.
Total enrolment: 658
Technician enrolment: 51
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, 2 yrs. of math
Electronics technology, chemical technology, mechanical technology

GEM CITY COLLEGE, SCHOOL OF HOROLOGY, 7th and State Sts.,
Quincy 62301
Private. Floyd W. Marshall, pres.
Robert W. Mintmier, dir.
Total enrolment: 350
Technician enrolment: 75
Admission: High-school graduation
Microminiaturization technology

GRANITE CITY SENIOR HIGH SCHOOL,
3101 Madison Ave., Granite City 62040

Public. Lawrence C. McCauley, prin.
M. A. Wittevrongel, asst. adm.
Total enrolment: 2,483
Accreditation: NCA
Metallurgical technology*

Illinois Valley Community College, La Salle 61201
Public. Kenneth Freeman, pres.
R. E. Trobaugh, administrative dean
Total enrolment: 1,532
Technician enrolment: 160
Accreditation: NCA
Admission: Open door policy, admission into various curricula dependent on applicant's aptitude and ability
Soils technology, data processing technology, electronics technology, nursing, mechanical technology

Industrial Engineering College of Chicago, 205 W. Wacker Dr., Chicago 60606
Private. Godfrey H. Kurtz, pres.
A. W. Cummings, executive vice pres.
Total enrolment: 216
Technician enrolment: 216
Accreditation: NATTS
Admission: High-school graduation
Industrial management technology, production engineering technology, industrial engineering technology, production control technology, quality control technology

Institute of Aviation, University of Illinois, 318 Civil Engineering Hall, Urbana 61803
Public. L. A. Bryan, dir.
Total enrolment: 27,000
Technician enrolment: 150
Accreditation: NCA
Admission: Varies according to technology
Aviation electronic technology†, aviation maintenance technology†

Joliet Junior College, 201 E. Jefferson St., Joliet 60432
Public. E. W. Rowley, dean
Ellery H. Frost, program dir.
Total enrolment: 2,100
Technician enrolment: 300
Accreditation: NCA, State Ed. Dept.
Admission: High-school graduation or equivalent
Agri-business technology, data processing technology, electrical technology, industrial electronics technology, medical laboratory technology, graphic arts technology, airconditioning, heating, and refrigeration technology*, automotive technology, design technology, drafting technology, machine tool technology

Lewis College Technical Institute, Highway 53, Lockport 60441
Private. Bro. Vincent Neil, dir.
Total enrolment: 1,450
Technician enrolment: 100
Accreditation: FAA
Admission: High-school graduation
Aviation maintenance technology

Maine Adult Evening School, Dempster St. and Potter Rd., Park Ridge 60068
Public. Alexander S. Kruzel, dir.
Robert L. Arnold, coord.
Total enrolment: 13,000
Technician enrolment: 175
Accreditation: State Ed. Dept.
Admission: High-school graduation
Data processing technology**

Morton Junior College, 2423 S. Austin Blvd., Cicero 60650
Public. Vincent J. Cerveny, dean
W. J. Silhan, tech. ed. chm.
Total enrolment: 1,483
Technician enrolment: 242
Accreditation: NCA
Admission: High-school graduation with 2 yrs. of math
Data processing technology, electronics technology, nursing, dental assisting

Proviso East High School, 807 S. 1st. Ave., Maywood 60153
Public. Hubert Pitt, prin.
William Johnson, tech. ed. chm.
Total enrolment: 3,579
Technician enrolment: 180
Accreditation: NCA
Data processing technology*, computer technology*, electronics technology*, nursing*, metallurgical technology*, design technology*, drafting technology*, fluid power (engineering) technology*, hydraulics technology*, mechanical drafting technology*

Robert Morris College, Carthage 62321
Private. L. W. Sherman, pres.
F. R. Mealey, dean of academic affairs
Total enrolment: 435
Admission: High-school graduation or equivalent and ability to profit from programs offered
Agri-business technology

Rock Valley College, 3301 N. Mulford Rd., Rockford 61111
Public. Clifford G. Erickson, pres.
Ronald Hallstrom, dean of voc.-tech. ed.
Total enrolment: 1,850
Technician enrolment: 250
Accreditation: NCA
Admission: High-school graduation; adults 18 or older on basis of testing and counseling
Agri-business technology, commerical design technology, data processing technology, electrical technology, electronics technology, dental technology, nursing, chemical technology, graphic arts technology, automotive technology, aviation maintenance technology, design technology, drafting technology, industrial drafting and design technology, mechanical and production engineering technology, mechanical drafting technology, mechanical technology, police science, production technology

Rockford Technical Institute, 201 S. Madison St., Rockford
Public. J. E. Fortin, dir.
Total enrolment: 536
Technician enrolment: 536
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent with 2 yrs. of math
Airconditioning and heating technology*, electronic data processing technology**, drafting technology*, industrial technology*, metallurgical technology*, computer technology*, electrical technology*, electronics technology*, instrumentation technology*, design technology*, hydraulics technology*, industrial drafting and design technology, mechanical drafting technology*

Sauk Valley College, River Campus, R. R. #1, Dixon 61021
Public. E. J. Sabol, pres.
John E. Roberts, dir. of ind. ed.
Total enrolment: 360
Technician enrolment: 22
Admission: Open door policy
Agri-business technology, agricultural engineering technology, data processing technology, building construction technology, highway technology, electronics technology, health technology, radiation technology, automotive technology, design technology, drafting technology, mechanical technology

Southern Illinois University, Vocational Technical Institute, Carbondale 62901
Public. E. J. Simon, university dean
M. Keith Humble, dir. of Voc.-Tech. Institute
Total enrolment: 1,500
Technician enrolment: 1,017
Accreditation: NCA
Admission: High-school graduation or pass GEDT
Data processing technology, architectural drafting technology, building construction technology, aviation electronics technology, computer technology, electronics technology, dental technology, forest products technology, graphic arts technology, automotive technology, aviation maintenance technology, aviation

technology, machine tool technology, mechanical drafting technology, mechanical technology, printing technology, mortuary science, dental hygiene, building construction technology

Steel Institute of Granite City,
3101 Madison Ave., Granite City
Public. M. A. Wittevronger, adm. asst.
Total enrolment: 664
Technician enrolment: 664
Admission: High-school graduation or equivalent
Steel making technology*

Thornton Junior College,
150th and Broadway, Harvey 60426
Public. J. D. Logsdon, pres.
Harmon D. Roberts, dir., tech. ed.
Total enrolment: 2,800
Technician enrolment: 334
Accreditation: NCA
Admission: High-school graduation or GEDT
Industrial electronic technology**, nursing, design drafting technology**

Triton College,
1000 Wolf Rd., Northlake 60164
Public. Herbert Zeitlin, pres.
Gordon Simonsen, dean of tech. ed.
Total enrolment: 2,524
Technician enrolment: 896
Accreditation: Illinois Junior College Board, State Ed. Dept.
Admission: High-school graduation or ability to profit from instruction
Commercial design technology, data processing technology, publications technology, architectural drafting technology, architectural engineering technology, building construction technology, surveying technology, computer technology, electrical technology, electromechanical drafting technology, electronic communications technology, electronic drafting technology, electronics technology, nursing, automotive technology, drafting technology, industrial drafting and design technology, machine tool technology, numerical control, police science, quality control

United Township Technical Institute,
1420—18th Ave., East Moline
Public. C. Edwin Pearson, dean
Total enrolment: 76
Technician enrolment: 76
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Industrial electronic technology, drafting and tool design technology

Wabash Valley College,
Mt. Carmel 62863
Public. Vera C. Laughlin, dean
Robert Irvin, dir. of voc. ed.
Total enrolment: 666
Technician enrolment: 225
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Agri-business technology, agricultural mechanics, electrical technology, electronics technology, radio production technology, nursing

Waukegan Township High School,
1011 W. Washington St.,
Waukegan 60085
Public. A. O. Remde, chm., trade and ind. ed.
Total enrolment: 4,000
Technician enrolment: 125
Accreditation: NCA
Admission: High-school graduation or equivalent, 18 yrs. or older, one yr. high-school math and 1 yr. high-school physical science
Data processing technology, electronics technology, chemical technology, general engineering technology

William Rainey Harper College,
34 W. Palatine Rd., Palatine 60067
(Opening September 1967)
Public. Robert E. Lahti, pres.
Harold C. Cunningham, tech. ed. chm.
Total enrolment: 1,200
Technician enrolment: 500
Admission: High-school graduation; 18 yrs. of age or older with ability to profit from instruction
Data processing technology, electronics technology, nursing, design technology, drafting technology, mechanical drafting technology, law enforcement

INDIANA

Bedford High School,
1501 N. St., Bedford
Public. Elmar Dunbar, prin.
Total enrolment: 1,940
Accreditation: NCA
Electronics technology, automotive technology, machine tool technology

Bloomington Senior High School,
1965 S. Walnut St., Bloomington
Public. C. G. Taylor, asst. prin.
Total enrolment: 550
Technician enrolment: 400
Accreditation: NCA
Admission: High-school graduation
Electronics technology, industrial technology, soils technology, architectural drafting technology, building construction technology, construction technology, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology

Elkhart Institute of Technology,
324 S. Main St., Elkhart 46514
Private. H. B. Elliott, pres.
Total enrolment: 450
Technician enrolment: 300
Accreditation: Comm. of Med. Laboratory Schools
Admission: High-school graduation or equivalent
Dental technology, medical laboratory technology, X-ray technology, medical assisting, dental assisting

Evansville College,
Box 329, Evansville 47704
Private. Melvin W. Hyde, pres.
Total enrolment: 4,879
Technician enrolment: 300
Accreditation: NCA
Admission: Upper 50% of class and SAT scores
Medical technology, nursing

Evansville-Vanderburgh School Corporation, 200 N. W. Seventh St., Evansville
Public. Russel J. Rowen, dir.
Total enrolment: 4,533
Technician enrolment: 1,015
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Architectural drafting technology**, electronics technology**, nursing, graphic arts technology**, airconditioning, heating, and refrigeration technology*, automotive technology**, combustion power technology**, design technology**, drafting technology, hydraulics technology*, industrial drafting and design technology**, machine tool technology**, mechanical drafting technology**

Fort Wayne Community Schools,
Vocational and Adult Evening School,
203 E. Douglas St., Fort Wayne 46802
Public. Jack Bobay, dir.
Ray Quance, coord, trade and ind. ed.
Total enrolment: 5,664
Technician enrolment: 1,364
Accreditation: State Ed. Dept.
Admission: Ability to profit from instruction
Architectural drafting technology*, building construction technology*, electrical technology*, electronics technology*, industrial electronics technology*, health technology*, nursing*, graphic arts technology*, airconditioning, heating, and refrigeration technology*, automotive technology*, design technology*, drafting technology*, hydraulics tech-

nology*, industrial drafting and design technology*, industrial technology*, machine tool technology*, mechanical drafting technology*

Lain Technical Institute,
601 N. Delaware St., Indianapolis; and
820 E. Division St., Evansville
Private. David W. Lain, dir.
Total enrolment: 250
Technician enrolment: 250
Admission: High-school graduation and satisfactory completion of entrance tests
Architectural engineering technology, industrial engineering technology**, tool and design technology**

Marion Community Schools,
716 W. 26th St., Marion 46952
Public. Walter J. Tucker, dir. voc. ed.
Total enrolment: 12,000
Technician enrolment: 105
Accreditation: NCA, State Ed. Dept.
Admission: High-school graduation or equivalent
Data processing technology**, computer technology*, electronic drafting technology, electronics technology, industrial electronic technology*, nursing*

MCS Adult Evening School,
328 E. Washington St., Muncie 47305
Public. Fred W. Burt, dir.
Herschel Eastman, tech. ed. chm.
Total enrolment: 500
Technician enrolment: 352
Admission: Open door policy
Electrical technology*, electronic communications technology*, industrial electronic technology*, nursing*, graphic arts technology, instrumentation technology*, metallurgical technology*, airconditioning, heating, and refrigeration technology*, automotive technology*, design technology*, drafting technology*, hydraulics technology*, industrial drafting and design technology*, machine tool technology*, mechanical drafting technology*

Midwestern College Industrial Arts and Science, 1232 Maumee Ave.,
Fort Wayne 46803
Private. Martin F. Pane, dir.
Total enrolment: 75
Admission: High-school graduation—pass entrance exam
Electronics technology, tool and die design technology

Purdue University, Lafayette 47907
(Data for all campuses)
Public. Frederick L. Hovde, pres.
George W. McNelly, dean, school of technology
Total enrolment: 21,407
Technician enrolment: 2,479
Accreditation: NCA
Admission: High-school graduation, upper ⅔ of class, CEEB
Architectural technology, civil engineering technology, aviation electronics technology, computer technology, electrical engineering technology, industrial electronic technology*, nursing, chemical technology, instrumentation technology*, metallurgical engineering technology, airconditioning, heating, and refrigeration technology*, aviation maintenance technology, industrial illustration technology, industrial engineering technology, mechanical engineering technology, foundry technology, food service technology, mental health technology, general flight technology

Purdue University, Calumet Campus,
2233—171st St., Hammond 46323
Public. Carl R. Elliott, dean and dir.
Total enrolment: 2,717
Technician enrolment: 581
Accreditation: NCA
Admission: High-school graduation, upper ⅔ of class, CEEB
Architectural technology, chemical technology, computer technology, electrical engineering technology, food service technology, industrial engineering technology, mechanical engineering technology, metallurgical engineering technology, nursing

Purdue University, Fort Wayne Campus, 2101 E. U.S. 30 Bypass,
Fort Wayne 46805
Public. D. Richard Smith, dean and dir.
Total enrolment: 2,255
Technician enrolment: 464
Accreditation: NCA
Admission: High-school graduation, upper ⅔ of class, CEEB
Architectural technology, civil engineering technology, computer technology, electrical engineering technology, food service technology, industrial engineering technology, mechanical engineering technology, mental health technology, nursing

Purdue University, Indianapolis Campus, 1125 E. 38th St.,
Indianapolis 46205
Public. Jack M. Ryder, dean and dir.
Total enrolment: 2,927
Technician enrolment: 823
Accreditation: NCA
Admission: High-school graduation, upper ⅔ of class, CEEB
Architectural technology, chemical technology, civil engineering technology, computer technology, electrical engineering technology, food service technology, industrial engineering technology, mechanical engineering technology, nursing

Purdue University, Lafayette Campus,
Lafayette 47907
Public. G. W. McNelly, dean
Total enrolment: 21,407
Technician enrolment: 545
Accreditation: NCA
Admission: High-school graduation, upper ⅔ of class, CEEB
Aviation electronics technology, aviation maintenance technology, electrical engineering technology, food service technology, foundry technology, general aviation flight technology, industrial illustration technology, mechanical engineering technology, nursing

Purdue University, Michigan City Campus, Barker Memorial Center,
631 Washington St.,
Michigan City 46360
Public. R. F. Schwarz, dean and dir.
Total enrolment: 756
Technician enrolment: 66
Accreditation: NCA
Admission: High-school graduation, upper ⅔ of class, CEEB
Architectural technology, electrical engineering technology, industrial engineering technology, nursing

Sams Technical Institute, Inc.,
11 S. Lincoln Park Dr.,
Evansville 47714
Private. W. D. Renner, dir.
Charles J. Carey, tech. ed. chm.
Total enrolment: 400
Technician enrolment: 400
Accreditation: NATTS
Admission: High-school graduation
Electronics technology, electronic engineering technology, computer technology, commercial broadcast technology, electronic communications technology**, electronic drafting technology, industrial electronic technology

Sams Technical Institute, Inc.,
1720 E. 38th St., Indianapolis 46218
Private. W. D. Renner, dir.
Lawrence L. Hansen, tech. ed. chm.
Total enrolment: 1,200
Technician enrolment: 1,200
Accreditation: NATTS
Admission: High-school graduation
Architectural engineering technology, electronics technology, tool engineering technology, electronics engineering technology

South Bend Community School Corporation, Adult Education Division, 1534 W. Sample St., South Bend 46619

Public. Richard M. Wysong, dir.
Lewis Powell, coord. of tech. ed.
Total enrolment: 3,000
Technician enrolment: 300
Admission: High-school graduation or equivalent and satisfactory completion of entrance tests
Data processing technology, construction technology*, surveying technology*, electronics technology, health technology*, chemical technology*, automotive technology*, design technology*, hydraulics technology*, industrial technology*, mechanical and production engineering technology*, mechanical technology*

SOUTHEASTERN INDIANA VOCATIONAL SCHOOL, P. O. Box 156,
Versailles 47042
Public. William E. Martin, dir.
Total enrolment: 680
Technician enrolment: 230
Accreditation: State Ed. Dept.
Admission: Satisfactory scores on specific test batteries
Commercial design technology**, data processing technology**, architectural drafting technology**, computer technology*, electrical technology**, electronic communications technology* electronics technology**, medical records technology, medical technology, instrumentation technology, lithographic technology**, automotive technology, tool design technology**, fluid power (engineering) technology*, industrial drafting and design technology**, industrial illustration technology and technical writing, mechanical technology

TRI-STATE COLLEGE, Angola 46703
Private. Richard M. Bateman, pres.
F. J. Bogardus, dean of faculties
Total enrolment: 1,800
Technician enrolment: 125
Accreditation: NCA
Admission: High-school graduation, 2 yrs. math, 3 yrs. English
Drafting technology

VALPARAISO TECHNICAL INSTITUTE,
Valparaiso
Public. E. Hershman, pres.
Total enrolment: 325
Technician enrolment: 325
Admission: High-school graduation, 1 yr. math, upper 3/4 graduating class
Electronics technology, electronic engineering technology†

VINCENNES UNIVERSITY COMMUNITY JUNIOR COLLEGE, Vincennes 47591
Public. Isaac K. Beckes, pres.
Total enrolment: 2,200
Technician enrolment: 900
Admission: High-school graduation
Data processing technology**, electronics technology**, nursing, aviation maintenance technology, aviation technology, industrial drafting and design technology**, machine tool technology**, food-processing technology

IOWA

AREA TEN COMMUNITY COLLEGE,
4401 Sixth St. Rd. S. W.,
P. O. Box 1689, Cedar Rapids 52406
Public. G. W. Eddings, dir., voc.-tech. div.
Total enrolment: 211
Technician enrolment: 95
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, test battery
Data processing technology, electronics technology, machine tool technology, mechanical technology

CENTERVILLE COMMUNITY COLLEGE,
Centerville
Public. L. Hellyer, dean
Total enrolment: 353
Technician enrolment: 55
Accreditation: State Ed. Dept.
Admission: High-school graduation
Automotive technology, industrial electronic technology, design technology, drafting technology, nursing

DES MOINES TECHNICAL HIGH SCHOOL,
1800 Grand Ave., Des Moines 50307
Public. E. C. Betz, prin.
J. W. Bell, dir. of ind. ed.
Total enrolment: 1,800
Technician enrolment: 238
Accreditation: NCA
Data processing technology, architectural drafting, computer technology, electronic communications technology, industrial electronic technology, airconditioning, heating, and refrigeration technology, aviation maintenance, mechanical drafting technology

EASTERN IOWA COMMUNITY COLLEGE,
CLINTON CAMPUS, 1000 Lincoln Blvd.,
Clinton 52732
Public. Paul Sharar, dean
Total enrolment: 585
Accreditation: State Ed. Dept.
Admission: Varies with program selected
Electronics technology, drafting technology, nursing

EASTERN IOWA COMMUNITY COLLEGE,
MUSCATINE CAMPUS,
152 Colorado St., Muscatine 52761
Public. James Loper, dean
Total enrolment: 615
Accreditation: State Ed. Dept.
Admission: High-school graduation or ability as demonstrated by testing
Feed and fertilizer marketing technology

EASTERN IOWA COMMUNITY COLLEGE,
SCOTT CAMPUS, 1829 State St.,
Bettendorf 52722
Public. Richard H. Schultz, dir. of voc.-tech. ed.
Donald G. Foreman, asst. dir., voc.-tech. ed.
Total enrolment: 329
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Data processing technology, electronics technology, medical laboratory technology, nursing, mechanical and production engineering technology, mechanical drafting technology

IOWA CENTRAL COMMUNITY COLLEGE,
22 N. 12th St., Fort Dodge 50501
Public. W. R. Hammans, voc.-tech. dir.
Total enrolment: 1,800
Technician enrolment: 70
Admission: Varies by program, entrance test
Electronics technology, nursing

IOWA STATE TECHNICAL INSTITUTE,
Iowa State University, Ames 50010
Public. W. Robert Parks, pres.
Harold B. Ellis, head, tech. inst.
Total enrolment: 15,000
Technician enrolment: 300
Accreditation: NCA
Admission: High-school graduation with required subjects
Technical agriculture, construction technology†, electronics technology†, mechanical technology†, chemical industries technology, food service management technology

IOWA TECH AREA XV SCHOOL DISTRICT,
Industrial Airport, Ottumwa 52501
Public. Harold L. Norris, dir.
Total enrolment: 350
Technician enrolment: 270
Admission: High-school graduation or equivalent
Data processing technology, computer technology, electronic technology

IOWA WESTERN COMMUNITY COLLEGE,
Clarinda 51632
Public. Orin C. Mann, dean
Jack Gell, dir., voc.-tech. ed.
Total enrolment: 568
Technician enrolment: 27
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Design technology, drafting technology, machine tool technology, mechanical

drafting technology, mechanical technology

IOWA WESTERN COMMUNITY COLLEGE,
310 First National Bank, Council Bluffs 51501
Public. Robert D. Looft, supt.
O. H. Beaty, dir. voc.-tech. ed.
Technician enrolment: 255
Admission: High-school graduation or equivalent
Data processing technology*, aviation electronics technology*, computer technology*, electrical technology*, electronics technology*, industrial electronic technology*, nursing**, automotive mechanics**, aviation maintenance mechanics*, mechanical and production engineering technology

MARSHALLTOWN COMMUNITY COLLEGE,
113 N. 1st Ave., Marshalltown 50158
Public. James A. McKinstry, dean
Robert Dugan, tech. div.
Total enrolment: 1,100
Technician enrolment: 127
Accreditation: NCA
Admission: High-school graduation or special permission
Publications technology, electronics technology, dental assistant, chemical technology, automotive technology, industrial drafting and design technology, machine tool technology*, mechanical technology

NORTH IOWA AREA COMMUNITY COLLEGE,
220 E. State, Mason City 50401
Public. Wm. F. Berner, supt.
Wm. C. McKeown, dir., voc.-tech. ed.
Total enrolment: 1,700
Technician enrolment: 228
Accreditation: NCA
Admission: High-school graduation or equivalent
Agri-business technology, electronics technology, nursing, X-ray technology, air-conditioning, heating, and refrigeration technology, automotive technology, drafting technology, mechanical technology

SIOUX CITY BOARD OF EDUCATION,
1221 Pierce St., Sioux City
Technician enrolment: 60
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Drafting technology, automotive technology*, electrical technology, electronics technology*, industrial technology*, nursing

SOUTHEASTERN IOWA COLLEGE,
1340 Mt. Pleasant St., Burlington 52601
Public. R. O. Birkhimer, pres.
A. E. McCullough, dir.
Total enrolment: 925
Technician enrolment: 73
Accreditation: NCA, State Ed. Dept.
Admission: High-school graduation or equivalent
Electronic communications technology, electronics technology, industrial electronic technology, nursing, design technology, industrial drafting and design technology, mechanical and production engineering technology

SOUTHWESTERN COMMUNITY COLLEGE,
P. O. Box 458, Creston 50801
Public. W. R. Pierce, Jr., supt.
Alex R. Kennedy, voc. dean
Total enrolment: 300
Technician enrolment: 100
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent with desired aptitude and interest for success
Architectural drafting technology, building construction technology, electronics technology, nursing, graphic arts technology, automotive technology, drafting technology

WATERLOO AREA TECHNICAL SCHOOL,
1516 Washington, Waterloo 50702
Public. D. L. Lippold, dir.
Total enrolment: 90
Technician enrolment: 90
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Electronics technology**, mechanical technology, drafting technology*, hydraulics technology*, machine tool technology*

KANSAS

BARTON COUNTY COMMUNITY JUNIOR COLLEGE,
1910—17th St., Great Bend 67530
(Opening September 1968)
Public. M. S. Macy, dean app. sci.

BUTLER COUNTY COMMUNITY JUNIOR COLLEGE, Haverhill and Towanda Rd., El Dorado 67042
Public. Ron Wilson, dean, voc.-tech. div.
Total enrolment: 1,500
Technician enrolment: 150
Accreditation: State Ed. Dept., Kansas Junior College Association
Admission: High-school graduation
Data processing technology, electrical technology, electronics technology, nursing technician, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology, machine tool technology

CAMPUS HIGH SCHOOL,
2100 W. 55th St., S., Wichita
Public. D. Ferguson, supt.
Total enrolment: 1,250
Technician enrolment: 40
Accreditation: State Ed. Dept.
Electronic data processing technology**

FORT HAYS KANSAS STATE COLLEGE,
Hays 67601
Public. John D. Garwood, faculty dean
Total enrolment: 4,970
Accreditation: NCA
Admission: High-school graduation or equivalent
Data processing technology, dental technology, medical laboratory technology, nursing

GARDEN CITY COMMUNITY JUNIOR COLLEGE,
Garden City 67846
Public. L. C. Crouch, pres.
C. A. Leonard, tech. ed. chm.
Total enrolment: 500
Technician enrolment: 150
Accreditation: State Ed. Dept.
Admission: High-school graduation
Agricultural engineering technology, soils technology, building construction technology, electrical technology, dental technology, health technology, nursing, ceramic technology, forest products technology, graphic arts technology, metallurgical technology, nucleonics, automotive technology, combustion power technology, drafting technology, hydraulics technology, mechanical drafting technology

HESSTON COLLEGE, Hesston 67062
Private. Tilman R. Smith, pres.
Paton Yoder, dean
Total enrolment: 368
Technician enrolment: 24
Accreditation: NCA, State Ed. Dept.
Admission: High-school graduation with special requirements for nursing
Nursing

HUTCHINSON COMMUNITY JUNIOR COLLEGE, 1300 N. Plum, Hutchinson 67501
Public. George W. Koon, dir.
Deane T. Banker, tech. ed. chm.
Total enrolment: 1,654
Technician enrolment: 142
Accreditation: NCA
Admission: High-school graduation, GATB required, ACT used
Agri-business technology, electrical technology, electronics technology, medical records technology, medical technology, radiological technology, automotive technology, drafting technology, machine tool technology

Independence Community Junior College, 10th and Oak, Independence 67301
Public. Neil Edds, dean
Total enrolment: 547
Technician enrolment: 40
Accreditation: NCA, State Ed. Dept.
Admission: High-school graduation or satisfactory GEDT scores
Medical technology, graphic arts technology, design technology, drafting technology, printing technology

Kansas City Community Junior College, 824 State Ave., Kansas City 66101
Public. Jack M. Flint, pres.
Charles W. Johnson, chm., voc.-tech. ed.
Total enrolment: 1,500
Accreditation: NCA, State Ed. Dept.
Admission: High-school graduation or successful scores on battery of tests
Data processing technology, computer technology, drafting technology

Kansas State College. Pittsburg 66762
Public. William P. Spence, dean, school of tech.
Total enrolment: 5,600
Technician enrolment: 200
Accreditation: NCA
Admission: High-school graduation
Data processing technology, architectural drafting technology, electronics technology, medical technology, graphic arts technology, automotive technology, drafting technology, machine tool technology, wood technology

Kansas State Teachers College, 1200 Commercial St., Emporia 66801
Public. John E. Visser, pres.
M. Lloyd Edwards, bus. and bus. ed.
Total enrolment: 6,372
Accreditation: NCA
Admission: Graduation from Kansas high school; selective for non-residents
Data processing technology

Kaw Area Vocational-Technical School, 620 Harrison, Topeka 66603
Public. P. W. Chamness, dir.
Total enrolment: 541
Accreditation: State Ed. Dept.
Highway technology (classes starting 1967-68)

Labette Community Junior College, 200 S. 14th St., Parsons 67357
Public. C. H. Thiebaud, pres.
Paul A. Komatz, dir. tech. ed.
Total enrolment: 536
Technician enrolment: 45
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Graphic arts technology, automotive technology, drafting technology, machine tool technology

Labette County Community High School, Altamont
Public. H. F. Harrison, supt.
Total enrolment: 900
Technician enrolment: 475
Accreditation: NCA
Electronics technology, agri-business technology, soils technology, architectural drafting technology, architectural engineering technology, surveying technology, nursing, chemical technology, automotive technology, drafting technology, machine tool technology

McFarland Trade School, Coffeyville
Public. W. F. Currier, dir.
Total enrolment: 454
Technician enrolment: 39
Accreditation: State Ed. Dept.
Admission: Aptitude tests
Electronics technology

Northwest Kansas Area Vocational-Technical School, Box 269, Goodland 67735
Public. Larry Keirns, dir.
Total enrolment: 334
Technician enrolment: 220
Accreditation: State Ed. Dept.
Admission: 16 yrs. of age or older
Data processing technology, building construction technology, electrical technology, automotive technology, drafting technology, telephone technology, farm mechanics technology

Olathe Unified District No. 233, Olathe
Public. W. Fick, supt.
Total enrolment: 4,000
Technician enrolment: 50
Accreditation: NCA, State Ed. Dept.
Electronic data processing technology

Salina Area Vocational-Technical School, Bldg. 658, Salina Airport Industrial Center, Salina 67401
Public. Carol E. Burchinal, dir.
Total enrolment: 300
Technician enrolment: 163
Accreditation: State Ed. Dept.
Admission: High-school graduation or over age 18
Electrical technology, lithographic technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, drafting technology, machine tool technology, mechanical drafting technology

University of Kansas, Extension Division, Lawrence
Public. H. T. Walker, dir.
Total enrolment: 11,250
Technician enrolment: 816
Accreditation: NCA
Drafting technology*, electrical technology*, electro-mechanical technology*, industrial electronic technology*, industrial technology*, machine drafting and design*, technical writing*, data processing*, electronics technology*

Wichita Public Schools, 640 N. Emporia, Wichita 67214
Public. G. T. Butts, dir., tech. ed.
Total enrolment: 68,210
Technician enrolment: 124
Accreditation: NCA, State Ed. Dept.
Drafting technology, electronics technology

KENTUCKY

Eastern Kentucky University, Richmond 40475
Public. John D. Rowlett, dean
William E. Sexter, chm. ind. tech.
Total enrolment: 7,989
Technician enrolment: 200
Accreditation: SA
Admission: Kentucky resident—high-school graduation; ACT exam. Non-resident—upper ½ of graduating class; ACT exam
Agri-business technology, dairy science, ornamental horticulture, farm machinery and equipment, data processing technology, electronics technology, nursing, graphic arts technology, drafting technology

Harlan State Vocational School, Box 936, Harlan 40831
Public. H. S. Pope, dir.
Carl E. Smith, tech. ed. chm.
Total enrolment: 564
Technician enrolment: 52
Accreditation: State Ed. Dept.
Admission: At least 16 yrs. old and acceptable score on GATB
Architectural engineering technology, electrical technology**, industrial electronic technology**, nursing, auto-diesel technology*, automotive technology**, hydraulics technology*, machine tool technology**

Hazard Area Vocational-Technical School, 2130 Allais Rd., Hazard 41701
Public. Walter Prater, dir.
Total enrolment: 598
Technician enrolment: 72
Accreditation: State Ed. Dept.
Construction technology**, highway technology**, medical laboratory technology**, auto-diesel technology**, draft-

ing technology**, machine tool technology**, fire-protection technology**

Henderson Community College, University of Kentucky, Henderson 42420
Public. Marshall Arnold, dir.
Total enrolment: 450
Technician enrolment: 88
Accreditation: SA
Admission: High-school graduation
Agricultural engineering technology**, soils technology, nursing, forest products technology

Jefferson Area Vocational-Technical School, 3101 Blue Bird Lane, Jeffersontown 40299
Public. Fred C. Bartel, dir.
Charles Kendall, chm., tech. ed.
Total enrolment: 1,500
Technician enrolment: 25
Accreditation: State Ed. Dept.
Admission: Successful scores on GATB
Electronic communication technology

Lafayette Vocational Technical School, Springhill Dr., Lexington 40503
Public. Claude W. Howard, dir.
Total enrolment: 948
Technician enrolment: 54
Admission: 18 yrs. of age and satisfactory GATB score
Electronic communications technology, mechanical drafting technology

Louisville Technical Institute, Heyburn Bldg., 4th and Broadway, Louisville 40202
Private. Allen Isert, asst. dir.
George D. Dumbaugh, dean of instruc.
Total enrolment: 60
Technician enrolment: 55
Admission: High-school graduation or equivalent
Structural engineering and design technology, electrical technology, mechanical engineering technology

Madisonville Area Vocational School, 637 W. Center St., Madisonville
Public. S. M. Jones, dir.
Total enrolment: 403
Technician enrolment: 13
Commercial broadcast technology**, electronics technology**

Maysville Community College, Maysville 41056
(Scheduled to open September 1968)

Northern Community College, University of Kentucky, 1401 Dixie Highway, Covington 41011
Public. Thomas L. Hankins, dir.
Total enrolment: 1,280
Technician enrolment: 94
Accreditation: SA
Nursing, X-ray technology

Northern Kentucky State Vocational-Technical School, Amsterdam Rd., Covington 41011
Public. C. W. Mathis, dir.
Total enrolment: 450
Technician enrolment: 65
Accreditation: State Ed. Dept.
Admission: Personal interview and evidenced aptitude
Data processing technology, electronics technology

Owensboro Vocational School, 1501 Frederica St., Owensboro 42301
Public. H. C. Warren, dir.
Robert G. Baize, tech. ed. chm.
Total enrolment: 1,100
Technician enrolment: 127
Admission: 16 yrs. of age, satisfactory GATB score
Electronic communications technology, industrial electronic technology, metallurgical technology

Paducah Junior College, Blandville Rd., Paducah 42001
Public. R. G. Matheson, pres.
Total enrolment: 1,250
Accreditation: SA
Admission: High-school graduation or GEDT, ACT scores
Building construction technology, nursing, chemical technology

Somerset Area Vocational-Technical School, N. College St., Somerset 42501
Public. H. D. Noe, dir.
Charles Robinette, tech. ed. chm.
Total enrolment: 500
Technician enrolment: 40
Admission: High-school graduation or GATB
Electronic communications technology**, graphic arts technology, lithographic technology, mechanical drafting technology**

Tilghman Area Vocational-Technical School, 2400 Adams St., Paducah 42001
Public. Ray D. Brown, dir.
Total enrolment: 1,000
Technician enrolment: 100
Admission: 16 yrs. of age min., junior in high school, aptitude as verified by GATB
Civil technology, highway technology, electronic communications technology, drafting technology, mechanical drafting technology

United Electronics Institute, 3947 Park Dr., Louisville 40216
Private. Stuart P. Jay, pres.
O. S. Hammer, vice pres. and dir.
Total enrolment: 1,500
Technician enrolment: 1,500
Accreditation: State Ed. Dept.
Admission: High-school graduation
Computer technology**, electrical technology**, electronic communications technology**, electronics technology**, industrial electronic technology**

Western Area Vocational School, P. O. Box 278, College Heights, Bowling Green
Public. P. C. Hampton, dir.
Total enrolment: 956
Technician enrolment: 170
Admission: Desire and ability to learn the subject matter
Electronic communications technology**, nursing**, airconditioning, heating, and refrigeration technology**, automotive technology**, industrial drafting and design technology**, machine tool technology**, mechanical drafting technology**, fire-protection technology

LOUISIANA

Avoyelles Vocational-Technical Institute, Cottonport
Public. J. W. Gaspard, dir.
Total enrolment: 1,061
Technician enrolment: 34
Accreditation: State Ed. Dept.
Electronics technology**

Baton Rouge Vocational-Technical School, 3400 Winbourne Ave., Baton Rouge 70805
Public. Jerome Bowling, Jr., dir.
Total enrolment: 1,350
Technician enrolment: 65
Accreditation: State Ed. Dept.
Admission: 16 yrs. of age or older, resident of the state, able to profit from instruction
Electronics technology**, industrial electronic technology**, instrumentation technology**, airconditioning, heating, and refrigeration technology**, drafting technology**

Capitol Area Vocational School, P. O. Box 2012, Baton Rouge
Public. E. Harris, dir.
Total enrolment: 238
Technician enrolment: 22
Electronic communications technology**

Central Area Trade School,
415 Lee St., Natchitoches 71457
Public. C. L. Cross, dir.
Total enrolment: 263
Technician enrolment: 60
Accreditation: State Ed. Dept.
Admission: 16 yrs. of age or older with at least 2 yrs. of high school
Electronic communications technology**, automotive technology

Delgado College, 615 City Park Ave.,
New Orleans 70119
Public. Marvin E. Thames, Sr., pres.
William E. Snead, executive dean
Total enrolment: 4,400
Technician enrolment: 1,500
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Soils technology**, commercial design technology**, data processing technology**, architectural drafting technology**, architectural engineering technology**, building construction technology**, construction technology**, civil technology**, aviation electronics technology**, computer technology**, electrical technology**, electro-mechanical drafting technology**, electronic communications technology**, electronics technology**, industrial electronic technology**, chemical technology**, graphic arts technology**, instrumentation technology**, lithographic technology**, metallurgical technology**, airconditioning, heating, and refrigeration technology**, auto-diesel technology**, automotive technology**, aeronautical and astronautical (engineering) technology**, aviation maintenance technology**, aviation technology**, design technology**, drafting technology**, industrial drafting and design technology**, industrial technology**, machine tool technology**, mechanical and production engineering technology**, mechanical drafting technology**, mechanical technology**, fire-protection technology**, food-processing technology**

Delta Area Vocational School,
P. O. Box 1321, Monroe 71201
Public. G. W. Muse, dir.
W. H. Hartzfeldt, instructor
Total enrolment: 192
Technician enrolment: 43
Admission: At least 16 yrs. of age and able to profit from instruction
Electronic communications technology

Evangeline Area Tri-Parish
Vocational-Technical School,
Box 68, St. Martinville 70582
Public. Elijah Reed, dir.
Lionel Joseph, instructor
Total enrolment: 285
Technician enrolment: 34
Accreditation: State Ed. Dept.
Admission: Resident of the state, 16 yrs. of age or older, able to profit from instruction
Computer technology, electronic communications technology, electronics technology

Gulf Area Vocational School,
P. O. Box 541, Abbeville
Public. W. W. Finuf, Jr., dir.
Total enrolment: 1,030
Technician enrolment: 63
Electronic communications technology

Jefferson Parish Trade School,
32 First St., Gretna
Public. R. W. Bentley, Jr., dir.
Total enrolment: 1,673
Technician enrolment: 185
Industrial electronic technology

North Central Area Vocational-
Technical School, P. O. Box 548,
Farmerville 71241
Public. Glen F. Post, Jr., dir.
Total enrolment: 579
Technician enrolment: 38
Accreditation: State Ed. Dept.
Admission: 16 yrs. of age and satisfactory entrance test scores
Electronic communications technology, electronics technology

Northeast Louisiana Vocational
School, P. O. Box 672, Winnsboro
Public. P. R. Purser, dir.
Total enrolment: 407
Technician enrolment: 33
Electronic communications technology

Northwest Louisiana Vocational-
Technical School, P. O. Box 835,
Minden 71055
Public. Joe E. Oswalt, dir.
Total enrolment: 746
Technician enrolment: 144
Accreditation: State Ed. Dept.
Admission: High-school graduation
Electronics technology**, instrumentation technology**

Orleans Area Vocational-Technical
School, 3727 Louisa St.,
P. O. Box 8202, New Orleans 70122
Public. Sidney N. Collier, dir.
Edward B. Williams, instructor
Total enrolment: 263
Technician enrolment: 36
Accreditation: State Ed. Dept.
Admission: 16 yrs. of age or over
Electronic communications technology**

Ouachita Valley Vocational-
Technical School,
P. O. Box 546, West Monroe 71291
Public. S. W. Jackson, dir.
Total enrolment: 825
Technician enrolment: 309
Accreditation: State Ed. Dept.
Admission: Good foundation in ma
and science, qualifying scores on tec
nical test battery entrance examinati
Data processing technology, architectur
drafting technology, construction tec
nology, civil technology, electrical tec
nology, electronic communications tec
nology, industrial electronic technolog
nursing, airconditioning, heating, a
refrigeration technology, automoti
technology, drafting technology, m
chine tool technology, mechanical dra
ing technology, mechanical technolog
television studio technology

Sabine Valley Vocational-Technical
School, Many 71449
Public. W. E. Hayes, dir.
Total enrolment: 659
Technician enrolment: 373
Accreditation: State Ed. Dept.
Admission: High-school graduation
Data processing technology, electron
communications technology**, nursin
forest products technology**, autom
tive technology**, drafting techn
ogy**, mechanical drafting techn
ogy**, welding**

Shreveport Trade School,
2010 N. Market, Shreveport 71107
Public. Alva C. Rast, Jr., dir.
Total enrolment: 1,801
Technician enrolment: 185
Accreditation: State Ed. Dept.
Admission: 16 yrs. of age; high-scho
graduation in technical areas
Computer technology, electronics tec
nology**, airconditioning, heating, a
refrigeration technology**, drafti
technology**

South Louisiana Trade School,
P. O. Box 1330, Houma 70361
Public. H. P. Willis, dir.
Total enrolment: 1,105
Technician enrolment: 57
Admission: High-school graduation
satisfactory achievement test
Electronic communications technolog
architectural drafting technology

Sowela Technical Institute,
501 Broad St., Lake Charles
Public. R. H. Smelser, dir.
Total enrolment: 2,267
Technician enrolment: 435
Accreditation: State Ed. Dept.
Admission: High-school graduation, pa
entrance tests

Automotive technology**, civil technology**, civil and construction technology**, electronic data processing technology**, drafting technology**, electrical technology*, electronics technology**, industrial electronic technology**, industrial technology**, highway technology*, computer technology*, electronic communications technology*, microminiaturization technology*, chemical technology*, engineering science technology*, graphic arts technology*, instrumentation technology*, airconditioning, heating, and refrigeration technology*, auto-diesel technology*, combustion power technology**, design technology*, industrial drafting and design technology*, machine tool technology*, mechanical technology**

T. H. Harris Vocational-Technical School, 337 E. South St., Opelousas 70570
Public. Isaac T. Stagg, dir.
Total enrolment: 1,128
Technician enrolment: 193
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Architectural drafting technology**, building construction technology*, construction technology*, civil technology*, highway technology**, surveying technology**, computer technology**, electrical technology**, electronic communications technology*, industrial electronic technology**, non-destructive testing technology**

MAINE

Southern Maine Vocational Technical Institute, Fort Rd., South Portland 04106
Public. Arthur H. Smith, dir.
Dean Coombs, tech. ed. chm.
Total enrolment: 600
Technician enrolment: 500
Accreditation: State Ed. Dept.
Admission: High-school graduation, appropriate math and science background, entrance examination
Building construction technology, construction technology, electrical technology**, electronics technology, industrial electronic technology, airconditioning, heating, and refrigeration technology, automotive technology, machine tool technology**, mechanical drafting technology*, mechanical technology, marine science technology, welding*

Technical Institute Division, College of Technology, University of Maine, Orono 04473
Public. Thomas H. Curry, dir.
Robert B. Rhoads, assoc. dir.
Technician enrolment: 145
Accreditation: NEA
Admission: High-school graduation with 4 yrs. of English, 2 yrs. algebra, 1 yr. plane geometry, 1 yr. physics or chemistry, and 1 yr. history or social studies
Civil engineering technology, electrical engineering technology, mechanical engineering technology, pulp and paper technology

University of Maine, Winslow Hall, Orono 04473
Public. Winston E. Pullen, assoc. dean
Total enrolment: 7,479
Technician enrolment: 183
Accreditation: NEA
Admission: High-school graduation, CEEB, 2 units math (one of which should be algebra)
Food industrial management, animal technology, laboratory animal technology, agri-business technology, food science management

MARYLAND

Allegany Community College, 340 Frederick St., P. O. Box 870, Cumberland 21502
Public. Robert S. Zimmer, pres.
Total enrolment: 612
Accreditation: MSA
Admission: High-school graduation
Chemical technology, quality control technology

Baltimore Junior College, 2901 Liberty Heights Ave., Baltimore 21215
Public. Harry Bard, pres.
Leonard S. Bowlsbey, dean of instruc.
Total enrolment: 3,225
Technician enrolment: 476
Accreditation: MSA, State Ed. Dept.
Admission: High-school graduation or equivalent, satisfactory test scores
Data processing technology, building construction technology, electronics technology, medical laboratory technology, medical records technology, nursing, mechanical technology, food-processing technology

Carver Vocational Technical High School, Presstman and Bentalou St., Baltimore 21216
Public. Carrie A. Johnson, act. prin.
Total enrolment: 1,442
Accreditation: MSA
Industrial electronic technology, automotive technology, industrial drafting and design technology

Catonsville Community College, 800 S. Rolling Rd., Catonsville 21228
Public. Oliver H. Laine, pres.
Joseph A. Scarlett, dir.
Total enrolment: 1,667
Technician enrolment: 320
Accreditation: MSA
Admission: High-school graduation or GED
Data processing technology*, architectural drafting technology, electronics technology, nursing, chemical technology, drafting technology, industrial drafting and design technology, library technology, mental health technology, biological laboratory technology

Charles County Community College, La Plata 20646
Public. J. N. Carsey, pres.
John M. Sine, dean
Total enrolment: 420
Technician enrolment: 80
Accreditation: State Ed. Dept.
Admission: Open door policy
Data processing technology, computer technology, electronics technology, drafting technology, mechanical drafting technology, mechanical technology

Chesapeake College, Centreville 21617 (Technical Center opening September 1968)
Public. George Silver, pres.
Total enrolment: 150 (est.)
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Nursing, marine technology, food science, civil technology, data processing, electro-mechanical technology, lab technician

Essex Community College, Essex 21221
Public. Moses S. Koch, pres.
James A. Newpher, dean
Total enrolment: 1,200
Accreditation: MSA
Admission: Upper ⅘ of high-school graduating class
Nursing

Hagerstown Junior College, 751 Robinwood Dr., Hagerstown 21740
Public. Atlee C. Kepler, pres.
Charles Morrison, coord., tech. ed.
Total enrolment: 782
Technician enrolment: 20
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Data processing technology, architectural drafting technology, structural engineering and design technology, surveying technology, electrical technology, electronics technology, medical laboratory technology, engineering science technology, design and drafting technology

Harford Community College, Bel Air
Public. J. W. Musselman, pres.
Total enrolment: 416
Technician enrolment: 41
Accreditation: State Ed. Dept.
Admission: High-school graduation or pass GEDT
Electronics technology, drafting technology, electrical technology

Montgomery Junior College, Takoma Park 20012
Public. William C. Strasser, pres.
George B. Erbstein, dean
Total enrolment: 4,318
Technician enrolment: 562
Accreditation: MSA
Admission: Open-door admission for Montgomery County residents; upper half ACT and upper half high-school rank for out-of-county and out-of-state applicants
Computer technology, electrical technology, electronics technology, medical technology, nursing, radiation technology, fire-protection technology, engineering aide, police science, dental assisting, printing technology

National Institute of Drycleaning, 909 Burlington Ave., Silver Spring 20910
Private. Benjamin I. LaFlare, dir.
W. Clay Hardin, supv.
Total enrolment: 900
Technician enrolment: 800
Accreditation: NHSC, State Ed. Dept.
Admission: High-school graduation preferred, at least 18 yrs. of age
Drycleaning technology**

North Hagerstown High School, 1200 Pennsylvania Ave., Hagerstown 21741
Public. James R. Lemmert, prin.
Total enrolment: 2,200
Technician enrolment: 55
Accreditation: MSA, State Ed. Dept.
Electrical technology

Prince George's Community College, 5000 Silver Hill Rd., Suitland 20028
Public. Watson F. Pindell, adm. pro tem
Total enrolment: 2,300
Technician enrolment: 50
Accreditation: State Ed. Dept.
Admission: High-school graduation
Data processing technology*

Wheaton High School, Randolph Rd. and Dalewood Dr., Wheaton
Public. Eugene P. Moran, prin.
Elmer G. Muth, asst. prin.
Total enrolment: 2,160
Technician enrolment: 76
Accreditation: MSA
Admission: Average ability, must have completed 10th grade
Electronics technology, industrial drafting and design technology, cartography

MASSACHUSETTS

Arlington Technical Institute, High School Bldg., Massachusetts Ave., Arlington
Public. E. J. Lewis, dir.
Total enrolment: 60
Technician enrolment: 60
Admission: High-school graduation, 1 yr. algebra
Electronic data processing technology

Automation Training Schools, Inc., 52 Chauncy St., Boston 02111
Private. Lawrence Coyne, dir.
Ivan Shrader, faculty supv.
Total enrolment: 300
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, satisfactory aptitude test scores
Data processing technology**

Berkshire Community College, Pittsfield 01202
Public. Thomas E. O'Connell, pres.
Arthur B. Phinney, chm.
Total enrolment: 800
Technician enrolment: 80
Accreditation: NEA
Admission: High-school graduation, algebra, geometry, and trigonometry required
Electronics technology

Blue Hills Regional Vocational Technical School, 100 Randolph St., Canton 02021
Public. William A. Dwyer, supt.-dir.
Total enrolment: 350
Technician enrolment: 150
Accreditation: NEA
Commercial design technology, data processing technology, building construction technology, computer technology, electrical technology, electronic communications technology, electronics technology, dental technology, medical laboratory technology, graphic arts technology, metallurgical technology, automotive technology, design technology, drafting technology, industrial drafting and design technology, machine tool technology, mechanical drafting technology

Bristol Community College, P. O. Box 133, Fall River 02720
Public. Jack P. Hudnall, pres.
Basil Castaldi, dean
Total enrolment: 465
Technician enrolment: 10
Admission: High-school graduation or equivalent, ability to perform college work
Electro-mechanical technology

Carnegie Institute, Pinckney and Anderson Sts., Boston 02114
Private. William R. Keany, adm. dean
Muriel W. Kanter, tech. dir.
Total enrolment: 140
Technician enrolment: 140
Admission: High-school graduation with passing grades in science subjects
Medical laboratory technology, medical technology, medical assisting, dental assisting

Chamberlayne Junior College, 128 Commonwealth Ave., Boston 02116
Private. Matthew J. Malloy, pres.
Nathaniel J. Hasenfus, academic dean
Total enrolment: 1,268
Technician enrolment: 10
Admission: High-school graduation or equivalent, CEEB
Data processing technology, computer technology, electronics technology

Fall River Area Vocational-Technical School, 128 Hartwell St., Fall River
Public. J. P. Harrington, dir.
Total enrolment: 406
Technician enrolment: 56
Accreditation: State Ed. Dept.
Electronics technology, nursing

Franklin Institute of Boston, 41 Berkeley St., Boston 02116
Public. Louis J. Dunham, Jr., dir.
Total enrolment: 852
Admission: High-school graduation and recommendation
Architectural drafting technology*, architectural engineering technology, civil technology**†, structural engineering and design technology**, surveying technology, electrical technology**, electro-mechanical technology**, electronic communications technology*, electronics technology**†, industrial electronic technology*, chemical technology**, instrumentation technology*, airconditioning, heating, and refrigeration technology*, automotive technology**, drafting technology**, industrial technology**, machine tool technology*, mechanical and production engineering technology*, mechanical drafting technology*, mechanical technology**†, photography**

Holyoke Community College, 541 South St., Holyoke 01040
Public. George E. Frost, pres.
W. A. McManus, chm., tech. div.
Total enrolment: 1,200
Technician enrolment: 34

Admission: High-school graduation or equivalent, 2 units of algebra and one of geometry
Computer technology, electronics technology, chemical technology, design technology

Lowell Technological Institute,
1 Textile Ave., Lowell 01854
Public. Martin J. Lydon, pres.
E. B. Van Dusen, dir., div. of evening studies
Total enrolment: 4,900
Technician enrolment: 2,300
Accreditation: NEA
Admission: High-school graduation, 1 yr. algebra, 1 yr. plane geometry
Data processing technology**, civil technology, surveying technology, electrical technology, electronics technology, radiation technology, chemical technology, nucleonics, industrial technology, mechanical technology

Lynn Trade High School,
498 Essex St., Lynn 01902
Public. Michael C. O'Donnell, dir.
Total enrolment: 330
Technician enrolment: 42
Accreditation: State Ed. Dept.
Admission: Completion of 9th grade, C or better in algebra and science
Electrical technology

Massachusetts Bay Community College, 57 Stanley Ave., Watertown 02172
Public. John F. McKenzie, pres.
John F. McLaughlin, dean of faculty
Total enrolment: 1,200
Technician enrolment: 70
Admission: High-school graduation, SAT
Electronics technology, nursing

Massachusetts Trades Shops School,
155-163 High St., Boston 02110
Private. Julian B. Gouse, dir.
Robert Cole, dir. of training
Total enrolment: 1,200
Technician enrolment: 1,200
Accreditation: State Ed. Dept.
Admission: Qualification test
Electro-mechanical drafting technology, electronic communications technology, electronic drafting technology, electronics technology, industrial electronic technology, airconditioning, heating, and refrigeration technology, automotive technology, combustion power technology, internal combustion (engineering) technology, drafting technology, industrial drafting and design technology, machine tool technology, mechanical and production engineering technology, mechanical drafting technology, machinist, machine and tool design

Massasoit Community College,
1071 Washington St., Abington 02351
Public. John W. Musselman, pres.
Edward J. Williamson, tech. ed. chm.
Total enrolment: 370
Accreditation: Massachusetts Board of Regional Community Colleges
Admission: High-school graduation or equivalent and prerequisite courses depending on curriculum elected
Electrical technology, electro-mechanical technology, nursing

Mount Wachusett Community College, Gardner 91440
Public. Arthur F. Haley, pres.
Leon Bedard, tech. ed. chm.
Total enrolment: 652
Technician enrolment: 45
Admission: High-school graduation
Data processing technology*, electro-mechanical technology**, industrial drafting and design technology*, mechanical drafting technology*

New Bedford Area Vocational-Technical School,
181 Hillman St., New Bedford
Public. Z. Walter Janiak, dir.
Total enrolment: 840
Technician enrolment: 26
Accreditation: NEA
Admission: Mech. aptitude test, math test, reading comprehension test
Electronics technology**

New Salem Academy Vocational High School,
South Main St., New Salem 01355
Public. John W. Filipek, dir.
Total enrolment: 100
Technician enrolment: 100
Accreditation: State Ed. Dept.
Automotive technology

Newton Junior College,
Newtonville 02160
Public. Charles W. Dudley, pres.
Charles D. Merrill, dean
Total enrolment: 602
Accreditation: NEA
Admission: High-school graduation, SAT
Data processing technology, electronics technology, nursing

North Shore Community College,
3 Essex St., Beverly 01915
Public. Harold E. Shively, pres.
Bennett E. Merry, Jr., tech. ed. chm.
Total enrolment: 950
Technician enrolment: 65
Admission: High-school graduation, C average
Electro-mechanical technology

Northeast Institute of Industrial Technology,
41 Phillips St., Beacon Hill, Boston
Private. J. W. Hoffman, pres.
Total enrolment: 850
Technician enrolment: 850
Accreditation: State Ed. Dept., Mass. Bd. Collegiate Authority
Admission: High-school graduation
Airconditioning, heating, and refrigeration technology, drafting technology, architectural drafting technology, electronics technology, industrial electronic technology, electrical technology, electro-mechanical drafting technology, electro-mechanical technology, electronic communications technology, electronic drafting technology, instrumentation technology*, design technology, industrial drafting and design technology, mechanical drafting technology

Northern Essex Community College,
Chadwick St., Haverhill 01832
Public. Harold Bentley, pres.
Edward J. Owen, dean of faculty
Total enrolment: 1,139
Technician enrolment: 113
Accreditation: State Ed. Dept.
Admission: High-school graduation, SAT, 3 yrs. math
Data processing technology, computer technology, electronics technology, engineering science technology

Quincy Area Vocational-Technical School, 107 Woodward Ave., Quincy 02169
Public. Maurice J. Daly, dir.
Total enrolment: 300
Technician enrolment: 13
Admission: High-school graduation, upper half of graduating class
Electronics technology*

Quinsigamond Community College,
251 Belmont St., Worcester 01605
Public. Paul G. Preus, pres.
Ralph Dudley, tech. ed. chm.
Total enrolment: 1,250
Technician enrolment: 400
Admission: High-school graduation, SAT, CEEB
Civil technology, highway technology, surveying technology, electronics technology, nursing, chemical technology

R.E.T.S. Electronic Schools,
965 Commonwealth Ave., Boston 02215
Private. John P. Rynard, dir.
Chet Harris, dir. tech. ed.
Total enrolment: 250
Technician enrolment: 250
Accreditation: State Ed. Dept.
Admission: High-school graduation
Electronic communications technology,

electronic drafting technology, electronics technology, industrial electronic technology

St. Joseph's Hospital School for Medical Record Technicians,
220 Pawtucket St., Lowell 01854
Private. Sister Therese Lusignan, R.R.L., dir.
Total enrolment: 12
Technician enrolment: 8
Accreditation: American Medical Assoc., American Association of Medical Record Librarians
Admission: High-school graduation, proficiency in typing
Medical laboratory technology*, medical records technology*, nursing*, X-ray technology*

Springfield Technical Institute,
Armory Sq., Springfield 01109
Public. Edmond P. Garvey, pres.
Total enrolment: 1,000
Technician enrolment: 100
Accreditation: State Ed. Dept.
Admission: High-school graduation
Commercial design technology**, data processing technology**, construction technology**, computer technology**, electrical technology**, electronics technology**, industrial electronic technology**, dental technology**, medical laboratory technology**, medical technology**, nursing**, chemical technology**, graphic arts technology**, instrumentation technology**, airconditioning, heating, and refrigeration technology**, auto-diesel technology**, drafting technology**, industrial technology**, mechanical and production engineering technology**, mechanical drafting technology**, mechanical technology**, dental assisting**, medical laboratory assistants**, physical therapy assistants**, surgical technicians**

Weldon Vocational High School,
Bradlee Rd., Medford
Public. Walter D. Reid, dir.
Total enrolment: 340
Technician enrolment: 50
Accreditation: NEA
Admission: Aptitude tests
Electrical technology, electronics technology, industrial electronic technology**

Wentworth Institute,
550 Huntington Ave., Boston
Private. E. B. Van Dusen, dean of instruc.
Total enrolment: 3,283
Accreditation: Mass. Bd. Collegiate Authority
Admission: High-school graduation and prescribed courses
Aircraft maintenance technology†, architectural engineering technology†, building construction technology†, civil and highway engineering technology†, electronic engineering technology†, electrical engineering technology†, mechanical engineering technology (heat power and design options)†, mechanical technology (machine processes and design options)†, metals engineering technology†, production engineering technology†

Weymouth Vocational Technical High School,
1051 Commercial St., E. Weymouth 02189
Public. John F. Collins, dir.
Total enrolment: 360
Technician enrolment: 25
Accreditation: State Ed. Dept.
Admission: High-school graduation with algebra, geometry, and physics required
Structural design in architecture

Worcester Industrial Technical Institute, 26 Salisbury St.,
Worcester 01605
Public. Oscar A. Maynard, coord.
Total enrolment: 350
Technician enrolment: 250
Admission: High-school graduation with 2 yrs. algebra, 1 yr. geometry, 1 yr. physics, 1 yr. mechanical drawing
Data processing technology**, electrical technology, industrial electronic technology, metallurgical technology, drafting technology, mechanical technology, optical technology, welding technology

MICHIGAN

Alpena Community College,
666 Johnson St., Alpena 49707
Public. Stanley E. Van Lare, dean
Dale Ilsley, hd., tech. ed. dept.
Total enrolment: 735
Technician enrolment: 155
Accreditation: NCA
Admission: High-school graduation with recommendation of principal; provisional admission granted those in lower half of class
Electronics technology, chemical technology, metallurgical technology, drafting and design technology, industrial technology

Ann Arbor Public Schools,
Continuing Education Department, 401 N. Division St., Ann Arbor 48104
Public. Kenneth Greer, dir.
R. A. Silverstone, dir. of voc. ed.
Total enrolment: 2,400
Technician enrolment: 120
Data processing technology*, computer technology*, electronics technology*, drafting technology*, mechanical drafting technology*

Arthur Hill Technical High School,
512 S. Michigan Ave., Saginaw 48602
Public. Herbert E. Chapman, prin.
Total enrolment: 270
Technician enrolment: 270
Accreditation: State Ed. Dept.
Electrical technology, electronics technology, metallurgical technology, auto-diesel technology, automotive technology, design technology, drafting technology, machine tool technology, mechanical technology

Bay City Board of Education,
1800 Columbus Ave., Bay City 48706
Public. Edmund Morelli, dir. of voc. ed.
Total enrolment: 15,000
Technician enrolment: 600
Accreditation: NCA
Agri-business technology**, soils technology, publications technology, architectural drafting technology, data processing technology, building construction technology*, construction technology**, electrical technology, electronic communications technology**, medical records technology, nursing*, graphic arts technology, automotive technology**, drafting technology**, industrial drafting and design technology, machine tool technology**, mechanical drafting technology**, welding

Carnegie Institute of Detroit,
200 Park Ave. Bldg., Detroit 48226
Private. James F. McEachern, adm. dir.
Total enrolment: 125
Technician enrolment: 125
Accreditation: NATTS, State Ed. Dept.
Admission: High-school graduation with C average or above
Medical assistant, medical laboratory assistant

Cass Technical High School,
2421 Second Blvd., Detroit 48201
Public. H. Loomis
Total enrolment: 4,000
Technician enrolment: 1,000
Accreditation: NCA
Admission: B average plus recommendation from counselor
Architectural drafting technology, building construction technology, civil technology, electrical technology, electronics technology, engineering science technology, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology, hydraulics technology, machine tool technology

Delta College,
University Center 48710

Public. Donald J. Carlyon, act. pres.
George O. Pease, dir. of tech. div.
Total enrolment: 3,341
Technician enrolment: 541
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, various curricula have special requirements
Agri-business technology, data processing technology**, architectural drafting technology*, architectural engineering technology**, commercial broadcast technology*, electronic drafting technology*, electronics technology**, dental technology*, nursing**, X-ray technology, chemical technology**, instrumentation technology**, metallurgical technology*, automotive technology, fluid power (engineering) technology*, hydraulics technology*, industrial drafting and design technology*, machine tool technology*, mechanical technology**, building materials management**

Detroit College of Applied Science,
4801 Allen Rd., Allen Park 48101
Private. O. B. Jones, pres.
Leo T. Kustra, dean
Total enrolment: 300
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Design technology**, drafting technology**, fluid power (engineering) technology*, industrial drafting and design technology**, industrial technology**, machine tool technology**, mechanical and production engineering technology**, mechanical drafting technology**, mechanical technology**, tool engineering technology**, manufacturing engineering technology**

Detroit Engineering Institute,
2030 W. Grand River, Detroit 48226
Private. Robert E. Nauth, pres.
F. Edgar Lamb, vice pres.
Total enrolment: 250
Technician enrolment: 250
Accreditation: NATTS
Admission: High-school graduation, GED or equivalent acceptable
Engineering science technology, graphic arts technology, design technology, drafting technology, industrial drafting and design technology, machine tool technology, mechanical and production engineering technology, mechanical drafting technology

Detroit Time Study School, Inc.,
2469 Grand River Ave., Detroit 48201
Private. Richard E. LaDuke, pres.
Eugene L. Knapp, dean-ed. dir.
Total enrolment: 400
Technician enrolment: 300
Admission: High-school graduation, entrance examination
Building construction technology*, construction technology*, engineering science technology†, design technology*†, drafting technology*†, industrial drafting and design technology*†, machine tool technology†, mechanical drafting technology*†, industrial engineering†

Ferris State College,
901 S. State St., Big Rapids 49307
Public. Victor F. Spathelf, pres.
Edgar E. Stahl, tech. ed. chm.
Total enrolment: 6,801
Technician enrolment: 1,799
Accreditation: NCA
Admission: High-school graduation or equivalent, native ability and sufficient aptitude
Commercial design technology, data processing technology, architectural drafting technology, construction technology, highway technology, surveying technology, electronics technology, industrial electronic technology, dental technology, optical technology, X-ray technology, graphic arts technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, drafting technology, machine tool technology, electronic communications technology, dental laboratory technician, environmental sanitarian technology, industrial chemistry technology, automotive machine tool technology, industrial production technology, electrical power technology, welding technology, plastics technology, medical technology, radiation technology, pesticide technology, avionic technology, medical records technology, offset newspaper technology, lineman electrical technology

Flint Community Junior College,
1401 E. Court St., Flint 48502
Public. Charles Donnelly, pres.
Charles Roche, dean of tech. ed.
Total enrolment: 6,000
Technician enrolment: 521
Accreditation: NCA, State Ed. Dept.
Admission: High-school graduation with 1 yr. each of drafting and algebra
Data processing technology, electronics technology, nursing, chemical technology, fluid power (engineering) technology, industrial drafting and design technology, mechanical and production engineering technology, dental hygienist, metallurgical technology

Glen Oaks Community College,
208 W. Chicago Rd., Sturgis 49091
(Opening September 1967)
Public. George W. Bowman, pres.
Michael A. Myckowiak, voc.-tech. dean
Total enrolment: 400 (est)
Technician enrolment: 175 (est)
Admission: High-school graduation or GEDT
Agri-business technology, nursing, automotive technology, drafting technology, machine tool technology

Gogebic Community College,
Ironwood 49938
Public. James L. Lehman, pres.
Jacob A. Solin, dir.
Total enrolment: 459
Technician enrolment: 10
Accreditation: NCA
Admission: High-school graduation
Medical records technology, medical technology, mechanical drafting technology

Grand Rapids Junior College,
143 Bostwick, N.E., Grand Rapids 49502
Public. F. J. McCarthy, dean
Total enrolment: 4,781
Technician enrolment: 660
Accreditation: NCA, State Ed. Dept.
Admission: High-school graduation; examination if over 21
Data processing technology, architectural drafting technology, civil technology, electronics technology, dental technology, nursing, chemical technology, drafting technology, mechanical technology

Henry Ford Community College,
5101 Evergreen Rd., Dearborn 48128
Public. A. J. Elges, tech. dean
Total enrolment: 9,200
Technician enrolment: 6,000
Accreditation: NCA
Admission: High-school graduation for residents; C+ average for non-residents
Automotive technology**, airconditioning and heating technology*, electronic data processing technology*, drafting technology**, electrical technology**, electronics technology**, industrial electronic technology**, machine tool technology**, mechanical technology*, metallurgical technology**, computer technology*, electro-mechanical technology**, electronic communications technology**, nursing**, instrumentation technology*, auto-diesel technology*, design technology*, fluid power (engineering) technology**, hydraulics technology**, industrial drafting and design technology**, industrial illustration technology*, mechanical and production engineering technology*, mechanical drafting technology**

Highland Park College,
Highland Park 48203

Public. Paul H. Jones, dean
Steve Banch, coord.
Total enrolment: 3,312
Technician enrolment: 391
Accreditation: NCA
Admission: High-school graduation and upper half of graduating class for nonresident
Nursing, design technology, drafting technology, mechanical drafting technology, apprentice technology

Jackson Community College,
512 Wildwood Ave., Jackson
Public. W. N. Atkinson, pres.
Total enrolment: 1,800
Technician enrolment: 180
Accreditation: NCA
Admission: High-school graduation or equivalent
Electrical technology**, industrial technology**, metallurgical technology*, data processing technology*, electronic communications technology**, nursing, X-ray technology, drafting technology, industrial drafting and design technology*

Kellogg Community College,
450 North Ave., Battle Creek
Public. Richard F. Whitmore, dir.
Total enrolment: 2,150
Technician enrolment: 215
Accreditation: NCA, State Ed. Dept.
Admission: High-school graduation for day program, desire to learn and related experience for night program
Drafting technology, electronics technology, mechanical technology, data processing technology, architectural drafting technology*, nursing, chemical technology, instrumentation technology, metallurgical technology*, fluid power (engineering) technology*, machine tool technology*

Lake Michigan College,
711 E. Britain Ave., Benton Harbor 49022
Public. Robert H. Plummer, pres.
Jesse J. Defore, dean of tech.
Total enrolment: 1,305
Technician enrolment: 261
Accreditation: NCA
Admission: High-school graduation
Agri-business technology, data processing technology, electrical technology, electronics technology, medical technology, metallurgical technology, drafting technology, mechanical technology

Lakeview High School,
21100 Eleven Mile Rd., St. Clair Shores
Public. R. H. Schaublin, prin.
Total enrolment: 1,400
Technician enrolment: 350
Accreditation: NCA
Electronics technology, graphic arts technology, automotive technology, drafting technology, wood technology, metal technology

Lansing Community College, 419 N. Capitol Ave., Lansing 48914
Public. Philip J. Gannon, pres.
William R. Monroe, chm., tech. div.
Total enrolment: 3,787
Technician enrolment: 1,071
Accreditation: NCA, Mich. Commission on College Accreditation
Admission: High-school graduation or equivalent except for special courses
Data processing technology, architectural drafting technology**, building construction technology*, construction technology*, civil technology, highway technology, structural engineering and design technology, surveying technology, computer technology, electronic communications technology*, electronic drafting technology*, electronics technology, industrial electronic technology*, medical technology, nursing, optical technology, sanitary engineer technology, X-ray technology, engineering science technology, metallurgical technology*, airconditioning, heating, and refrigeration technology*, automotive technology*, design technology, drafting technology, industrial drafting and design technology*, mechanical drafting technology, mechanical technology, fire-protection technology, food-processing technology, cartographic drafting and photogrammetry, library technology, police science, transportation training*

Lawrence Institute of Technology,
21000 W. Ten Mile Rd., Southfield 48075
Private. Arthur D. Hart, dir.
Total enrolment: 3,925
Technician enrolment: 1,032
Accreditation: NCA
Admission: High-school graduation, satisfactory scores on entrance tests
Building construction technology, electrical technology, electronics technology, chemical technology, industrial technology, mechanical technology

Lincoln Technical Institute of Detroit, Inc., 14486 Gratiot, Detroit 48205
Private. Richard N. Diggs, dir.
Alexander J. Pribish, chief instruc.
Total enrolment: 170
Technician enrolment: 170
Admission: 16 yrs. of age, 70% or better on mechanical dexterity and aptitude entrance exams
Automotive technology

Macomb County Community College, 14500 Twelve Mile Rd., Warren 48093
Public. Robert Turner, pres.
Raymond Doane, ind. tech. div.
Total enrolment: 10,000
Technician enrolment: 2,000
Accreditation: Mich. Accreditating Commission
Admission: High-school graduation or equivalent
Commercial design technology**, data processing technology*, surveying technology**, computer technology*, electrical technology*, nursing, chemical technology*, engineering science technology*, graphic arts technology**, instrumentation technology**, metallurgical technology*, design technology**, drafting technology**, fluid power (engineering) technology**, hydraulics technology**, industrial drafting and design technology**, industrial illustration technology**, industrial technology**, mechanical drafting technology**, mechanical technology**

Michigan State University,
East Lansing 48823
Public. John A. Hannah, pres.
Harold Ecker, tech. ed. chm.
Total enrolment: 38,000
Technician enrolment: 450
Accreditation: NCA
Soils technology, food-processing technology, farm equipment technology

Michigan Technological University,
Houghton; Branch Campus: Sault Ste. Marie
Public. Raymond L. Smith, pres.
Total enrolment: 4,150
Technician enrolment: 357
Accreditation: NCA
Admission: High-school graduation with units in algebra, plane geometry, physics
Electrical technology*, mechanical technology, civil technology, mechanical and production engineering technology*

Monroe County Community College,
2 E. First St., Monroe 48161
Public. Ronald Campbell, pres.
Roger Eckhardt, area chm. for tech.
Total enrolment: 444
Technician enrolment: 95
Admission: Open-door policy
Electrical technology, electro-mechanical drafting technology, industrial electronic technology, automotive technology, design technology, drafting technology, industrial drafting and design technology, industrial technology, machine tool technology, mechanical drafting technology, mechanical technology

MONROE HIGH SCHOOL, 428 S. Monroe St., Monroe 48161
Public. Leo Perelman, prin.
Kent B. Ackerman, dir. of voc. ed.
Total enrolment: 1,760
Technician enrolment: 170
Accreditation: NCA
Electronics technology, dental technology, graphic arts technology, automotive technology, design technology, drafting technology, machine tool technology

MONTCALM COMMUNITY COLLEGE, Sidney 48885
Public. Maurice D. Swift, dean, tech.-voc. studies
Total enrolment: 207
Technician enrolment: 165
Admission: High-school graduation or 21 yrs. of age
Nursing, automotive technology, design and drafting technology, industrial technology, machine tool technology, agricultural technology

MUSKEGON COUNTY COMMUNITY COLLEGE, Muskegon 49440
Public. Ralph A. Austermiller, pres.
E. J. Huttenga, dean, voc.-tech. ed.
Total enrolment: 3,498
Technician enrolment: 1,705
Accreditation: NCA
Admission: High-school graduation or equivalent
Data processing technology, electronics technology, dental technology, medical technology, nursing, X-ray technology, chemical technology, graphic arts technology, automotive technology, drafting technology, industrial technology, mechanical technology

NORTH CENTRAL MICHIGAN COLLEGE, Petoskey 49770
Public. A. D. Shankland, pres.
Total enrolment: 521
Technician enrolment: 45
Accreditation: Mich. Accreditation Agency
Admission: High-school graduation
Architectural drafting technology, medical laboratory technology, nursing

NORTHWESTERN MICHIGAN COLLEGE, Traverse City 49684
Public. Preston N. Tanis, dir.
Herbert Tedder, tech. ed. chm.
Total enrolment: 1,360
Technician enrolment: 375
Accreditation: NCA
Admission: High-school graduation with at least C average
Data processing technology, surveying technology, electronics technology, medical technology, nursing, chemical technology, automotive technology, drafting technology, food-service technology, dental office assistant, medical assistant, law enforcement

OAKLAND COMMUNITY COLLEGE, 2480 Opdyke, Bloomfield Hills 48013
Public. James H. Dotseth, dir., tech. ed.
Total enrolment: 3,968
Technician enrolment: 947
Accreditation: State Ed. Dept.
Admission: Placement exam
Landscape technology**, data processing technology**, electronic communications technology**, dental technology, medical laboratory technology**, medical office technology**, nursing, automotive technology**, design technology**, drafting technology*, mechanical and production engineering technology**, food-service technology**, law enforcement**, library technology**

PONTIAC CENTRAL HIGH SCHOOL, 250 W. Huron St., Pontiac 48053
Public. Francis Staley, prin.
M. C. Prottengeier, dir. of voc.-ad. ed.
Total enrolment: 1,100
Technician enrolment: 300
Accreditation: NCA
Electrical technology, electronics technology, industrial technology, building construction technology, industrial electronic technology, airconditioning, heating, and refrigeration technology, design technology, fluid power (engineering) technology, hydraulics technology, industrial drafting and design technology, machine tool technology

PORT HURON JUNIOR COLLEGE, 323 Erie St., Port Huron 48060
Public. J. C. Browning, dean
A. R. Nowakowski, dir.
Total enrolment: 4,000
Technician enrolment: 225
Accreditation: NCA, State Ed. Dept., Mich. Comm. on College Accred.
Commercial design technology, architectural drafting technology, electronics technology, nursing, industrial drafting and design technology, mechanical and production engineering technology

R. E. T. S. ELECTRONICS SCHOOL, 1625 E. Grand Blvd., Detroit 48211
Private. M. Alyea, managing dir.
Laurence R. Howard, pres.
Total enrolment: 1,623
Technician enrolment: 1,623
Accreditation: State Ed. Depts. in Mich., Ohio, Mass., N. J., Pa., Md., Ind., Ill., and Calif.
Admission: High-school graduation or equivalent
Practical electronics and communications engineering, industrial electronics, electronics technology, electronic communications technology

ST. CLAIR SHORES ADULT EDUCATION, 25901 Jefferson Ave., St. Clair Shores
Public. R. Chenoweth, dir.
Total enrolment: 7,655
Technician enrolment: 524
Accreditation: NCA, State Ed. Dept.
Admission: None for adults or out-of-school youth
Automotive technology*, drafting technology*, architectural drafting technology*, electrical technology*, electronics technology*, industrial electronic technology*, welding technology*, data processing technology*, building construction technology*, electronic drafting technology*, aviation technology*, machine tool technology*, welding technology*, boiler operation technology*, airconditioning and refrigeration technology*

SCHOOLCRAFT COLLEGE, Livonia 48151
Public. Jon P. Adams, dean
Total enrolment: 3,140
Technician enrolment: 1,143
Accreditation: State Ed. Dept.
Admission: Open-door policy
Data processing technology, architectural drafting technology, highway technology, electro-mechanical technology, electronics technology, nursing, automotive service technology, design technology, drafting technology, industrial drafting and design technology, industrial technology, manufacturing technology, machine tool technology, mechanical drafting technology, mechanical technology, welding and fabrication technology

SOUTHWESTERN MICHIGAN COLLEGE, Cherry Grove Rd., Dowagiac 49047
Public. Nathan A. Ivey, pres.
Francis L. Hiscock, dean of applied sciences
Total enrolment: 1,000
Technician enrolment: 500
Admission: High-school graduation or equivalent; full-time students must take placement and counseling exams
Agri-business technology**, soils technology, publications technology, nursing*, automotive technology, aviation technology, drafting technology**, industrial technology, machine tool technology

TECHNICAL SCHOOL OF METALLURGY, 13550 Auburn Ave., Detroit 48223
Private. C. A. Nagler, dir.
Accreditation: State Ed. Dept.
Admission: High-school graduation
Metallurgical technology

WASHTENAW COMMUNITY COLLEGE, P. O. Box 345, Ann Arbor 48108
Public. David Ponitz, pres.
Total enrolment: 1,250

Technician enrolment: 630
Admission: 18 yrs. old or high-school graduate
Commercial design technology**, data processing technology**, architectural drafting technology**, surveying technology*, electrical technology**, electromechanical technology**, electronic communications technology**, electronics technology**, industrial electronic technology*, dental technology, health technology, medical laboratory technology, medical records technology, X-ray technology, engineering science technology**, instrumentation technology**, metallurgical technology**, automotive technology**, internal combustion (engineering) technology**, aviation maintenance technology*, drafting technology**, fluid power (engineering) technology, hydraulics technology, industrial drafting and design technology**, industrial illustration technology**, machine tool technology**, mechanical technology**, inhalation therapy

Western Michigan University,
Kalamazoo 49001
Public. George E. Kohrman, dean
Total enrolment: 16,500
Technician enrolment: 120
Accreditation: NCA
Admission: High-school graduation
Electronics technology, automotive technology, aviation maintenance technology, drafting technology

MINNESOTA

Alexandria Area Technical School,
S. Jefferson St., Alexandria 56308
Public. Vernon R. Maack, dir.
Total enrolment: 500
Technician enrolment: 40
Accreditation: State Ed. Dept.
Admission: High-school graduation, upper 50% of high-school class
Agri-business technology**, electro-mechanical drafting technology**, medical laboratory technology**, auto-diesel technology, hydraulics technology, mechanical drafting technology

Anoka-Ramsey Junior College,
Coon Rapids 55432
Public. Emil F. Wilken, dean
Carl Gerber, tech. ed. chm.
Total enrolment: 1,005
Technician enrolment: 300
Accreditation: NCA
Admission: Open-door policy
Architectural drafting technology, structural engineering and design technology, electronics technology, nursing, design drafting technology

Austin Area Vocational-Technical School, Austin 55912
Public. Morton A. Carney, dir.
Total enrolment: 350
Technician enrolment: 125
Accreditation: State Ed. Dept.
Admission: High-school graduation and evidence of ability
Data processing technology**, electronic communications technology**, industrial electronic technology**, nursing, automotive technology**, fire-protection technology**

Brown Institute,
3123 E. Lake St., Minneapolis 55406
Private. Richard C. Brown, dir.
Total enrolment: 575
Technician enrolment: 475
Accreditation: NATTS
Admission: High-school graduation and admissions test for electronics; 2 yrs. college and admissions test for computer programing
Data processing technology, computer technology, commercial broadcast technology, electronic communications technology, electronics technology, industrial electronic technology

Duluth Area Institute of Technology,
Duluth
Public. Harold Hill, dir.
Total enrolment: 900
Technician enrolment: 200
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent and entrance tests
Data processing technology**, architectural drafting technology**, highway technology, electrical technology**, electronics technology**, instrumentation technology**, drafting technology**, mechanical drafting technology**, nursing, medical lab assistant, occupational therapy assistant

Dunwoody Industrial Institute,
818 Wayzata Blvd., Minneapolis 55403
Private. John A. Butler, dir.
Total enrolment: 1,650
Technician enrolment: 700
Admission: High-school graduation or equivalent for technician level courses
Architectural drafting technology, highway technology, surveying technology, computer technology, electrical technology, electro-mechanical technology, electronic communications technology, electronics technology, industrial electronic technology, airconditioning, heating, and refrigeration technology, machine tool technology, mechanical drafting technology

Ely State Junior College,
500 E. Harvey St., Ely 55731
Public. C. Don Miller, dean
Total enrolment: 295
Technician enrolment: 10
Accreditation: NCA
Admission: High-school graduation or adult special status
Chemical technology, engineering science technology

Eveleth Area Vocational-Technical School, 416 Roosevelt Ave.,
Eveleth 55734
Public. Edward F. Russ, dir.
Total enrolment: 111
Technician enrolment: 14
Accreditation: State Ed. Dept.
Admission: High-school graduation
Optical technology

Granite Falls Vocational-Technical School,
Granite Falls 56241
Public. Wendell Howard, dir.
Total enrolment: 210
Technician enrolment: 60
Accreditation: State Ed. Dept.
Data processing technology, fluid power (engineering) technology, hydraulics technology, industrial drafting and design technology, machine tool technology

Hibbing Area Technical Institute,
505 E. 16th St., Hibbing 55746
Public. William E. Magajna, dir.
Total enrolment: 400
Technician enrolment: 179
Accreditation: State Ed. Dept.
Admission: High-school graduation or over 18 yrs.
Data processing technology**, dental assistant, medical laboratory technology, auto-diesel technology**, automotive technology**, fire-protection technology*

Hibbing State Junior College,
Hibbing 55746
Public. Homer Kelley, dean
R. Koski, tech. ed. chm.
Total enrolment: 800
Technician enrolment: 60
Accreditation: NCA
Admission: High-school graduation or GED, special review of applicants over 21 yrs. of age
Nursing

Itasca State Junior College,
Grand Rapids
Public. Leo Keskinen, dir.
Paper and pulp technology

Lakewood State Junior College,
1011 Fourth St., White Bear Lake 55110 (Opening September 1967)

Public. R. N. Hill, pres.
Martin Murphy, tech. ed. chm.
Total enrolment: 500
Technician enrolment: 75
Admission: High-school graduation
Data processing technology**, computer technology**

Mankato Area Vocational-Technical School, 51 Park Lane,
Mankato 56001
Public. Frank G. Kalin, dir.
Kenneth J. Albrecht, tech. ed. chm.
Total enrolment: 2,000
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: High-school graduation, passing scores on prerequisite aptitude tests
Agri-business technology, soils technology*, data processing technology*, architectural drafting technology, civil technology, electrical technology*, electro-mechanical technology, electronic communications technology**, electronics technology**, airconditioning, heating, and refrigeration technology**, automotive technology**, combustion power technology, internal combustion (engineering) technology, drafting technology, fluid power (engineering) technology*, industrial drafting and design technology, machine tool technology, mechanical and production engineering technology

Minneapolis Area Vocational-Technical School,
1101 Third Ave., S., Minneapolis 55404
Public. Raymond V. Nors, dir.
Reuben Schafer, tech. ed. chm.
Total enrolment: 14,625
Technician enrolment: 1,579
Accreditation: State Ed. Dept.
Admission: High-school graduation or over 17 yrs. of age and able to profit from instruction
Architectural drafting technology, automotive technology, aviation mechanics, electronic data processing, electricity technology, electronics technology, food-processing technology, offset printing, nursing, welding technology

Northwest Institute of Medical Laboratory Technique,
3408 E. Lake St., Minneapolis 55406
Private. Sidney Kaufman, adm.
Total enrolment: 250
Technician enrolment: 250
Accreditation: State Ed. Dept., Acc. Comm. for Medical Technology Schools
Medical laboratory technology, X-ray technology

Northwestern Electronics Institute,
3800 Minnehaha Ave., Minneapolis 55406
Private. C. L. Larson, pres.
Gordon G. Robb, chief of training
Total enrolment: 500
Technician enrolment: 500
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Data processing technology*, computer technology**, commercial broadcast technology**, electro-mechanical technology**, electronic communications technology**, electronics technology**, industrial electronic technology**

Rochester State Junior College,
Adm. Bldg., Rochester 55901
Public. Charles E. Hill, dean
Donald Lavine, chm. of tech. div.
Total enrolment: 1,826
Technician enrolment: 92
Accreditation: NCA
Admission: High-school graduation, special requirements vary with curriculum
Civil technology, electronics technology, medical laboratory technology, engineering science technology

St. Cloud Area Vocational-Technical School,
1601 N. 9th Ave., St. Cloud 56301
Public. James C. Wakefield, dir.
Warren H. Hutchens, tech. ed. chm.
Total enrolment: 301
Technician enrolment: 174
Accreditation: State Ed. Dept.
Admission: Pass entrance exam
Electrical technology, electronic communications technology, electronics technology, nursing, graphic arts technology, automotive technology, industrial drafting and design technology, machine tool technology

St. Mary's Junior College,
2614 S. 6th St., Minneapolis 55406
Private. Sister Anne Joachim, pres.
Total enrolment: 550
Technician enrolment: 550
Accreditation: State Ed. Dept.
Admission: Top ½ of high-school class and top 40% ACT
Medical laboratory technology, medical records technology, medical technology, nursing, radiation technology, X-ray technology, occupational therapy assistant, physical therapy assistant, inhalation therapy assistant, child development technician

St. Paul Technical-Vocational Institute,
235 Marshall Ave., St. Paul 55102
Public. Harold M. Ostrem, dir.
Total enrolment: 9,281
Technician enrolment: 3,511
Accreditation: State Ed. Dept.
Admission: High-school graduation
Data processing technology**, architectural drafting technology**, building construction technology**, construction technology**, highway technology**, computer technology**, electrical technology**, electro-mechanical technology**, electronic communications technology**, electronics technology**, industrial electronic technology**, microminiaturization technology*, chemical technology**, graphic arts technology**, instrumentation technology*, lithographic technology**, metallurgical technology**, airconditioning, heating, and refrigeration technology**, auto-diesel technology**, automotive technology**, drafting technology**, fluid power (engineering) technology**, industrial drafting and design technology**, industrial technology**, machine tool technology**, mechanical drafting technology**, food-processing technology**

Staples Area Vocational-Technical School, Staples
Public. Michael J. Matanich, dir.
Total enrolment: 351
Technician enrolment: 72
Accreditation: State Ed. Dept.
Admission: High-school graduation
Agri-business technology, diesel technology, tool design technology, drafting technology, industrial drafting and design technology, plastic mold technology

Thief River Falls Area Vocational-Technical School,
Thief River Falls 56701
Public. Arnt M. Aune, dir.
Total enrolment: 270
Technician enrolment: 60
Accreditation: State Ed. Dept.
Admission: 16 yrs. of age
Electronics technology**

Virginia Junior College, Virginia
Public. G. M. Staupe, dean
Total enrolment: 450
Technician enrolment: 8
Accreditation: NCA
Admission: High-school graduation
Medical technology, nursing

Wadena Area Technical Institute,
405 S. W. Colfax, Wadena
Public. D. C. Hamerlinck, dir.
Total enrolment: 170
Technician enrolment: 90
Accreditation: State Ed. Dept.
Admission: High-school graduation and entrance exams

Electronics technology, automotive technology, civil technology, highway technology, electrical technology

Willmar Area Vocational Technical School,
P. O. Box 796, Willmar 56201
Public. Michael Cullen, dir.
Total enrolment: 450
Technician enrolment: 127
Accreditation: State Ed. Dept.
Admission: High-school graduation, entrance tests
Agri-business technology, electronics technology, nursing, mechanical and production engineering technology

Winona Area Technical School,
1250 Homer Rd., Winona 55987
Public. Thomas W. Raine, dir.
William Hensey, asst. dir.
Total enrolment: 350
Accreditation: State Ed. Dept.
Admission: High-school graduation or 18 yrs. of age
Agri-business technology, data processing technology, civil technology, highway technology, electronics technology, industrial electronic technology, health technology, nursing, engineering science technology, automotive technology, industrial drafting and design technology, machine tool technology

MISSISSIPPI

Biloxi Municipal Separate School District, Biloxi
Public. R. D. Brown, supt.
Total enrolment: 1,390
Technician enrolment: 160
Accreditation: SA
Aviation electronics technology, automotive technology, industrial drafting and design technology

Copiah-Lincoln Junior College,
Wesson 39191
Public. F. M. Fortenberry, pres.
Luther L. Garrett, coord.
Total enrolment: 831
Technician enrolment: 50
Accreditation: SA
Data processing technology, building construction technology, electronics technology, chemical technology, instrumentation technology, industrial drafting and design technology

East Central Junior College,
Decatur
Public. D. Montgomery, pres.
Total enrolment: 555
Technician enrolment: 60
Accreditation: SA
Admission: High-school graduation
Automotive technology, architectural drafting technology, highway drafting technology, agri-business technology, agricultural engineering technology, machine tool technology, electrical technology, medical laboratory technology

Hinds Junior College,
Raymond 39154
Public. Robert M. Mayo, pres.
Walter H. Gibbes, dir. voc.-tech. ed.
Total enrolment: 2,176
Accreditation: SA
Agricultural engineering technology, data processing technology, electrical technology, electronic communications technology, nursing, airconditioning, heating, and refrigeration technology, automotive technology, aviation maintenance technology, drafting technology, mechanical technology

Holmes Junior College,
Goodman 39079
Public. F. B. Branch, pres.
Reid Thorne, coord.
Total enrolment: 1,400
Technician enrolment: 65
Accreditation: SA
Admission: High-school graduation
Data processing technology, building construction technology, medical technology, drafting technology

Itawamba Junior College, Fulton
Public. J. S. Crubaugh, pres.
Total enrolment: 650
Technician enrolment: 100
Accreditation: SA
Admission: High-school graduation
Electronics technology, building construction technology*

Jackson County College,
Gautier 39553
Public. C. L. Davis, dean
R. T. Ferguson, coord.
Total enrolment: 461
Technician enrolment: 91
Accreditation: SA, Miss. Assoc. of Colleges
Admission: High-school graduation or equivalent
Electrical technology, electronics technology, X-ray technology, metallurgical technology, mechanical technology, drafting and design technology, quality control technology, computer programing technology

Jones County Junior College,
Ellisville 39437
Public. J. B. Young, pres.
M. P. Carter, dir. voc.-tech. ed.
Total enrolment: 2,250
Technician enrolment: 375
Accreditation: SA
Admission: High-school graduation
Livestock technology, data processing technology, electronics technology, nursing, X-ray technology, design drafting technology, machine tool technology, mechanical technology, radio-television technology

Meridian Junior College,
5500 Highway 19 N., Meridian 39301
Public. William F. Scaggs, dean
Total enrolment: 1,500
Technician enrolment: 234
Accreditation: SA
Admission: High-school graduation or equivalent, ACT
Data processing technology, electronics technology, nursing, drafting technology

Mississippi Delta Junior College,
Moorhead
Public. W. B. Horton, pres.
Total enrolment: 699
Technician enrolment: 130
Accreditation: SA
Admission: High-school graduation, ACT score of 11 or above
Building construction technology, construction technology, electrical technology

Mississippi Gulf Coast Junior College District,
Perkinston 39573
Public. J. J. Hayden, Jr., pres.
Total enrolment: 2,152
Technician enrolment: 272
Accreditation: SA
Admission: High-school graduation, ACT
Data processing technology, electrical technology, electronics technology, nursing, X-ray technology, metallurgical technology, automotive technology, industrial drafting and design technology, mechanical technology, computer programing technology, quality control technology

Northwest Mississippi Junior College,
Senatobia 38668
Public. R. D. McLendon, pres.
Thomas D. Coats, tech. ed. chm.
Total enrolment: 1,179
Technician enrolment: 230
Accreditation: SA
Admission: High-school graduation or satisfactory GED and special test scores
Agri-business technology, data processing technology, civil technology, electronics technology**, industrial drafting and design technology**, airconditioning, heating, and refrigeration technology**, industrial technology, mechanical technology, tool and die technology**

Pascagoula Public Schools,
P. O. Box 280, Pascagoula 39567
Public. James L. Garner, dir.

Total enrolment: 1,015
Technician enrolment: 275-500
Accreditation: State Ed. Dept.
Admission: Aptitude testing, geometry prerequisite
Building construction technology†, electrical technology†, nursing, industrial drafting and design technology

PEARL RIVER JUNIOR COLLEGE,
Poplarville 39470
Public. G. H. Johnston, pres.
Thurman Alley, coord. of voc.-tech. ed.
Total enrolment: 850
Technician enrolment: 63
Accreditation: SA
Admission: High-school graduation
Data processing technology**, architectural drafting technology, highway technology, electronics technology, nursing, chemical technology

UTICA JUNIOR COLLEGE,
Utica 39175
Public. Walter Washington, pres.
Harry E. Studdard, coord.
Total enrolment: 681
Technician enrolment: 84
Accreditation: State Ed. Dept.
Admission: High-school transcript and application
Building construction technology, electronics technology, drafting and design technology

MISSOURI

B. I. T. (Basic Institute of Technology),
1930 S. Vandeventer Ave., St. Louis 63110
Private. Anthony J. Zoeller, pres.
Total enrolment: 270
Technician enrolment: 270
Accreditation: State Ed. Dept.
Admission: High-school graduation and entrance exam
Commercial broadcast technology*, electrical technology*, electro-mechanical drafting technology*, electronic communications technology*, electronic drafting technology*, electronics technology*, industrial electronic technology*, graphic arts technology*, instrumentation technology*, airconditioning, heating, and refrigeration technology*, design technology*, drafting technology*, industrial drafting and design technology*, industrial illustration technology*, industrial technology*

BROOKFIELD R-III AREA TECHNICAL-VOCATIONAL SCHOOL,
216 Linn St., Brookfield 64628
Public. C. P. Dodge, dir.
Total enrolment: 403
Technician enrolment: 196
Accreditation: State Ed. Dept.
Admission: Junior level in high school
Publications technology**, architectural drafting technology**, building construction technology, electronic communications technology**, nursing**, automotive technology**, drafting technology**

CAPE GIRARDEAU VOCATIONAL-TECHNICAL SCHOOL, 61 N. Clark,
Cape Girardeau 63701
Public. Gary K. Gilbert, dir.
Total enrolment: 200
Technician enrolment: 70
Accreditation: State Ed. Dept.
Admission: High-school junior with prerequisites
Electronics technology, industrial electronic technology*, graphic arts technology, airconditioning, heating, and refrigeration technology**, automotive technology, industrial drafting and design technology

CENTRAL MISSOURI STATE COLLEGE,
Warrensburg 64093
Public. Warren C. Lovinger, pres.
Rawleigh Gaines, chm., div. applied arts and sciences
Total enrolment: 10,525
Technician enrolment: 350
Accreditation: NCA
Admission: Out-of-state must be in upper half of class; in-state upper two-thirds of class
Data processing technology, building construction technology, aviation electronics technology, computer technology, electrical technology, medical technology, nursing, airconditioning, heating, and refrigeration technology, automotive technology, aviation maintenance technology, drafting technology, industrial drafting and design technology

CENTRAL TECHNICAL INSTITUTE,
1644 Wyandotte St., Kansas City 64108
Private. C. L. Foster, pres.
N. E. Vilander, vice-pres., tech. dir.
Total enrolment: 825
Technician enrolment: 650
Accreditation: NHSC, NCTS
Admission: High-school graduation, 1 yr. algebra
Data processing technology, computer technology, commercial broadcast technology†, electronic communications technology†, electronics technology, industrial electronic technology

CROWDER COLLEGE,
Neosho 64850
Public. Donald D. Shook, pres.
Donald L. Hagen, dir., occupational curriculums
Total enrolment: 400
Technician enrolment: 110
Accreditation: State Ed. Dept., U. of Missouri
Admission: High-school graduation or equivalent
Electronics technology, metallurgical technology*, design technology, drafting technology*, hydraulics technology*

THE DAVID RANKEN, JR., SCHOOL OF MECHANICAL TRADES,
4431 Finney Ave., St. Louis 63113
Private. George B. Rodenheiser, dir.
Total enrolment: 700
Technician enrolment: 320
Admission: High-school graduation, qualifying tests
Architectural drafting technology**, electrical technology**, electronic communications technology**, electronics technology**, industrial electronic technology**, airconditioning, heating, and refrigeration technology**, automotive technology**, drafting technology**, industrial drafting and design technology**, machine tool technology**, mechanical drafting technology**, communications electronics**

FINLAY ENGINEERING COLLEGE,
7 E. 79th Terrace, Kansas City 64114
Public. Gordon M. Finlay, pres.
Total enrolment: 300
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: High-school graduation or GED equivalent
Aeronautical technology, electrical technology, mechanical technology, civil technology, refrigeration and airconditioning technology, architectural engineering technology, construction technology, structural engineering and design technology, industrial technology

FLORISSANT VALLEY COMMUNITY COLLEGE,
3400 Pershall Rd., Ferguson 63135
Public. Douglas F. Libby, Jr., vice-pres.
William F. Schallert, chm., eng. div.
Total enrolment: 2,239
Technician enrolment: 260
Accreditation: NCA
Admission: Varies from one program to another
Commercial design technology, data processing technology, civil technology, surveying technology, electrical technology, electro-mechanical drafting technology, electro-mechanical technology, electronic drafting technology, electronics technology, industrial electronic technology, chemical technology, design technology, drafting technology, industrial drafting and design technology, industrial illustration technology, industrial

technology, mechanical and production engineering technology, mechanical technology, systems technology

FRANKLIN TECHNICAL SCHOOL,
2020 Iowa, Joplin 64801
Public. R. W. Baker, dir., tech.-voc. ed.
Total enrolment: 850
Technician enrolment: 325
Accreditation: NCA
Admission: 2 or more yrs. of high school and post-high school, ability to handle instruction, pre-tests
Electronics technology**, industrial electronic technology*, nursing*, automotive technology**, drafting technology**, industrial drafting and design technology*, mechanical and production engineering technology**, mechanical technology**

HICKMAN HIGH SCHOOL,
Columbia
Public. R. C. Shaw, supt.
Total enrolment: 1,500
Technician enrolment: 53
Accreditation: NCA, State Ed. Dept.
Electronics technology, electronic communications technology*

HILLYARD VOCATIONAL-TECHNICAL SCHOOL,
801 S. 9th St., St. Joseph
Public. W. P. Green, dir.
Total enrolment: 423
Technician enrolment: 91
Accreditation: NCA
Admission: High-school seniors and junior-college students
Drafting technology**, architectural drafting technology**, electrical technology**, electronics technology**, industrial electronic technology

JEFFERSON CITY SENIOR HIGH SCHOOL,
609 Union St., Jefferson City
Public. Marvin E. Fleming, prin.
Total enrolment: 1,200
Technician enrolment: 20
Accreditation: NCA
Data processing technology**, nursing

JUNIOR COLLEGE DISTRICT OF JEFFERSON COUNTY,
P. O. Box 126, Hillsboro 63050
Public. Charles J. McClain, pres.
Ray Walsh, dean of tech. ed.
Total enrolment: 1,150
Technician enrolment: 200
Accreditation: State Ed. Dept., U. of Missouri
Admission: High-school graduation
Architectural drafting technology, civil technology, electronics technology**, automotive technology, mechanical and production engineering technology, mechanical drafting technology

JUNIOR COLLEGE DISTRICT OF ST. LOUIS COUNTY, 7508 Forsyth Blvd.,
Clayton 63105
Public. Joseph P. Cosand, pres.
Total enrolment: 8,087
Technician enrolment: 3,000
Accreditation: NCA
Admission: High-school graduation or equivalent
Horticulture technology, commercial design technology, data processing technology, architectural drafting and design technology, electrical technology, electronics technology, nursing, automotive technology, mechanical technology, fire-protection technology, chemical engineering technology, civil engineering technology, electrical engineering technology, electronic engineering technology, industrial engineering technology, mechanical engineering technology

KANSAS CITY PUBLIC SCHOOLS,
Vocational-Technical Education,
1211 McGee St., Kansas City 64106
Public. H. W. Dahlor, dir., voc.-tech. ed.
Total enrolment: 736
Technician enrolment: 194
Accreditation: State Ed. Dept.
Admission: Tests and screening committee
Data processing technology, electronics technology, graphic arts technology, air-conditioning, heating, and refrigeration technology, drafting technology, mechanical technology

KIRKSVILLE PUBLIC SCHOOLS,
Board of Education Bldg., Kirksville
Public. O. W. Phillips, supt.
Total enrolment: 2,600
Technician enrolment: 65
Accreditation: State Ed. Dept.
Electronics technology

KIRKSVILLE SENIOR HIGH SCHOOL,
Kirksville
Public.
Total enrolment: 558
Technician enrolment: 110
Accreditation: NCA
Airconditioning and heating technology, civil and construction technology*, electronics technology, industrial electronic technology*

LINN TECHNICAL COLLEGE,
Linn 65051
Public. Thurman L. Willett, supt.
R. T. Livingston, dir.
Total enrolment: 250
Technician enrolment: 250
Accreditation: State Ed. Dept.
Admission: Over 16 and out of school
Architectural drafting technology, structural engineering and design technology, electronics technology, automotive technology, design technology, drafting technology

MEHLVILLE SENIOR HIGH SCHOOL,
3120 Lemay Ferry Rd., St. Louis 63125
Public. E. Merryman, asst. supt.
Total enrolment: 2,000
Technician enrolment: 112
Accreditation: NCA, State Ed. Dept.
Electronics technology**, machine too technology, graphic arts technology, de sign technology**

METROPOLITAN JUNIOR COLLEGE,
560 Westport Rd., Kansas City 64111
Public. Howard N. Monnett, act. pres.
Total enrolment: 4,702
Technician enrolment: 216
Accreditation: NCA
Admission: Open-door policy
Data processing technology, dental techno ogy, nursing, drafting technology, m chanical and production engineerin technology

MINERAL AREA COLLEGE,
Flat River 63601
Public. James E. Seitz, dean of occupation ed.
Total enrolment: 831
Technician enrolment: 86
Accreditation: State Ed. Dept.
Admission: High-school graduation wi math and science
Architectural drafting technology, ci technology**, surveying technology industrial electronic technology*, m chanical drafting technology**, mecha ical technology

MISSOURI SCHOOL FOR DOCTORS' ASSISTANTS,
950 Francis Pl., Clayton 63105
Private. Samuel L. Gilberg, pres.
Raymond N. Marandola, dir.
Total enrolment: 65
Technician enrolment: 25%
Admission: High-school graduation and, tested equivalent
Dental technology, health technology, m ical laboratory technology, medical te nology

MISSOURI SOUTHERN COLLEGE,
310 W. 8th St., Joplin 64801
Public. Leon C. Billingsly, pres.
James K. Maupin, dean of tech. ed.
Total enrolment: 1,850
Technician enrolment: 150
Accreditation: NCA
Admission: High-school graduation equivalent

Data processing technology, nursing, automotive technology, computer technology, medical technology

MONETT AREA VOCATIONAL SCHOOL,
P. O. Box 191, Monett 65708
Public. Earl Hagenbusch, voc. dir.
Technician enrolment: 304
Accreditation: NCA, State Ed. Dept.
Admission: Varies with course selected
Data processing technology*, architectural drafting technology**, building construction technology, electronics technology**, industrial electronic technology, dental assistant, health technology**, medical assistant, nursing, automotive technology**, combustion power technology**, design technology, drafting technology, industrial drafting and design technology**, industrial illustration technology**, machine tool technology**, mechanical drafting technology**, food-processing technology**

O'FALLON TECHNICAL HIGH SCHOOL,
5101 Northrup, St. Louis 63110
Public. Henry C. Briesenmeister, prin.
Total enrolment: 6,835
Technician enrolment: 848
Accreditation: NCA
Electronic data processing technology*, drafting technology*, architectural drafting technology, structural engineering and design technology, electrical technology**, electronics technology*, nursing, instrumentation technology*, lithographic technology*, auto-diesel technology*, automotive technology*, hydraulics technology*, machine tool technology*, mechanical drafting technology*, electroplating technology*

POPLAR BLUFF SENIOR HIGH SCHOOL,
Highland Dr., Poplar Bluff 63901
Public. Art Keller, prin.
Don Simmons, dir. of voc.-ind. ed.
Total enrolment: 1,700
Technician enrolment: 47
Accreditation: NCA, State Ed. Dept.
Admission: High-school graduation or equivalent
Electronics technology

ST. LOUIS COUNTY TECHNICAL SCHOOL,
5600 Country Day Lane, Berkeley 63134
Public. L. Clark, dir.
Total enrolment: 440
Technician enrolment: 230
Admission: Aptitude tests are required
Electronic data processing technology**, electronics technology**, computer technology*, drafting technology**, mechanical drafting technology**

SOUTHEAST MISSOURI TRADE-TECHNICAL INSTITUTE,
200 Pine St., Sikeston 63801
Public. Jim D. Cornett, dir., voc. ed.
Total enrolment: 1,730
Technician enrolment: 250
Accreditation: State Ed. Dept.
Admission: Interest and ability to be successful
Electrical technology, electronic communications technology**, electronics technology**, industrial electronic technology**, microminiaturization technology**, nursing, graphic arts technology**, lithographic technology**, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, design technology, drafting technology, industrial drafting and design technology

SOUTHWEST MISSOURI AREA VOCATIONAL-TECHNICAL SCHOOL,
Neosho 64850
Public. Jim Shoemaker, dir.
Total enrolment: 300
Technician enrolment: 35
Accreditation: State Ed. Dept.
Admission: High-school junior standing
Building construction technology**, electronics technology**, airconditioning, heating, and refrigeration technology*, automotive technology**, drafting technology

SPRINGFIELD BOARD OF EDUCATION SCHOOL OF TECHNOLOGY,
815 Sherman, Springfield 65802
Public. David W. Berryman, dir.
Total enrolment: 1,200
Technician enrolment: 110
Accreditation: State Ed. Dept.
Admission: High-school graduation and entrance exams
Data processing technology, electronics technology, design technology, drafting technology

TRI-COUNTY TRADE AND TECHNICAL SCHOOL,
Malden 63863
Public. Alva A. Davault, supv.
Total enrolment: 234
Technician enrolment: 180
Accreditation: State Ed. Dept.
Admission: Varies
Building construction technology**†, airconditioning, heating, and refrigeration technology**†, automotive technology**†

MONTANA

GREAT FALLS PUBLIC SCHOOLS,
Adm. Bldg., 1100—4th St., S., P. O. Box 2669, Great Falls 59401
Public. W. Ted Barkhurst, asst. supt.
James H. Carey, supv.
Total enrolment: 3,500
Technician enrolment: 223
Accreditation: NWA, State Ed. Dept.
Building construction technology, electrical technology, electronics technology, graphic arts technology, combustion power technology, drafting technology, machine tool technology

HELENA SENIOR HIGH SCHOOL,
Dept. of Aeronautics and Related Trades,
2300 E. Poplar, Helena 59601
Public. William A. Korizek, prin.
Total enrolment: 400
Technician enrolment: 137
Accreditation: NWA, FAA
Admission: Electronics: 2 yrs. math; Technical Eng. Drawing: 1 yr. mech. drawing
Electronics technology, automotive technology, aviation maintenance technology, drafting technology

MISSOULA COUNTY HIGH SCHOOL,
South and Holborn, Missoula 59801
Public. Shelby Bewley, supt.
Benjamin A. Ulmer, dir. of voc., tech., and ad. ed.
Total enrolment: 3,300
Technician enrolment: 325
Accreditation: NWA, State Ed. Dept.
Admission: 16 yrs. of age
Agri-business technology*, data processing technology*, architectural drafting technology, building construction technology, electrical technology**, electro-mechanical technology**, electronic communications technology**, nursing, forest products technology**, automotive technology**, drafting technology**, fire-protection technology*

NORTHERN MONTANA COLLEGE,
Havre 59501
Public. J. R. Crowley, pres.
Total enrolment: 1,288
Technician enrolment: 329
Accreditation: NWA
Admission: High-school graduation for residents; upper half of graduating class or suitable score on ACT for nonresidents
Agri-business technology, construction technology, electrical technology, electronics technology, nursing, chemical technology, automotive technology, drafting technology, mechanical engineering technology, electronics engineering technology, diesel technology

NEBRASKA

CENTRAL NEBRASKA TECHNICAL SCHOOL,
P. O. Box 1024, Hastings 68901
Public. Chester Gausman, supt.
R. P. Harrington, dir., occupational ed.

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Total enrolment: 700
Technician enrolment: 700
Accreditation: State Ed. Dept.
Admission: Open-door policy
Agri-business technology, soils technology, data processing technology, architectural drafting technology, building construction technology, construction technology, computer technology, commercial broadcast technology, electrical technology, electro-mechanical technology, electronic communications technology, electronics technology, industrial electronic technology, dental technology, graphic arts technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, combustion power technology, drafting technology, hydraulics technology, machine tool technology, mechanical drafting technology, food-processing technology

Nebraska Vocational Technical School,
Milford 68405
Public. Lowell A. Welsh, dir.
Total enrolment: 644
Technician enrolment: 644
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Data processing technology, building construction technology, electrical technology, electronic communications technology, electronics technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, drafting technology, machine tool technology, mechanical technology

Omaha Public Schools,
Vocational and Adult Education, 3902 Davenport St., Omaha 68131
Public. Edwin H. Parrish, dir.
Total enrolment: 5,300
Technician enrolment: 165
Accreditation: NCA, State Ed. Dept.
Admission: Satisfactory grades in math and science, pre-technical drafting and pre-technical electrical courses
Drafting technology**, instrumentation technology*, data processing technology, computer technology, electrical technology**

Radio Engineering Institute,
2610 Leavenworth, Omaha 68105
Private. W. B. Weddington, dir.
L. P. Peterson, ed. dir.
Total enrolment: 300
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Computer technology, electronic communications technology, electronics technology, industrial electronic technology

South High School,
4519 S. 24th St., Omaha
Public. Richard C. Krebs, prin.
Technician enrolment: 500
Accreditation: NCA
Data processing technology, architectural drafting technology, electronic communications technology, electronics technology, graphic arts technology, drafting technology, machine tool technology, mechanical drafting technology

Universal Trades School, Inc.,
902 Capitol Ave., Omaha 68102
Private. George J. Abdouch, pres.
Ivan M. Abdouch, ed. dir.
Total enrolment: 390
Technician enrolment: 390
Accreditation: NATTS
Admission: High-school graduation in most cases and/or demonstrated mechanical aptitude
Airconditioning, heating, and refrigeration technology*, automotive technology*

University of Nebraska, School of Technical Agriculture,
Curtis 69025
Public. Stanley Matzke, Jr., supt.
Gerald J. Huntwork, asst. supt.
Total enrolment: 115
Technician enrolment: 115
Accreditation: State Ed. Dept.
Admission: 16 yrs. or older
Agri-business technology, agricultural drafting surveying and soil science, agricultural machinery mechanics, agricultural horticulture, production agriculture

Western Nebraska Vocational Technical School,
Sidney 69162
Public. Merle Rudebusch, dir.
Total enrolment: 98
Technician enrolment: 61
Accreditation: State Ed. Dept.
Admission: High-school graduation recommended, GATB
Building construction technology, electrical technology, electronics technology, tractor-diesel technology, automotive technology, drafting technology

NEVADA

Carson High School,
P. O. Box 603, W. King St., Carson City 89701
Public. Morse R. Burley, prin.
Total enrolment: 789
Technician enrolment: 170
Accreditation: NWA
Electronics technology, drafting technology

Clark County School District,
Vocational-Technical & Adult Education, P. O. Box 551, Las Vegas
Public. Raymond L. Sturm, dir.
Total enrolment: 5,500
Technician enrolment: 800
Accreditation: NWA, State Ed. Dept.
Admission: High-school graduation, extension classes by examination plus interview
Airconditioning and heating technology**, civil technology*, civil and construction technology*, electronic data processing technology**, drafting technology*, architectural drafting technology*, electronics technology**, industrial electronic technology*, highway technology*, nursing*, graphic arts technology*

Elko High School,
987 College Ave., Elko 89801
Public. Edwin R. Jensen, prin.
Total enrolment: 652
Technician enrolment: 144
Accreditation: NWA
Soils technology, architectural drafting technology, building construction technology, automotive technology, drafting technology, industrial drafting and design technology, mechanical drafting technology

Mineral County School District,
651 A St., Hawthorne
Public. F. Smalley, supt.
Total enrolment: 1,800
Accreditation: NWA
Admission: Resident of Mineral County and high-school graduation
Automotive technology, electronics technology**, industrial electronic technology**

Nevada Technical Institute, Stead Campus,
University of Nevada, Reno
Public. Harry J. Wolf, dir.
Total enrolment: 187
Technician enrolment: 187
Admission: High-school graduation or GED
Architectural drafting technology†, building construction technology†, civil highway technology†, surveying technology*, electronics technology†, industrial electronic technology*, X-ray technology, design technology†, drafting technology*, industrial drafting and design technology*, law enforcement

Southern Nevada Vocational-Technical Center,
5710 Maple St., Las Vegas 89109; Adult Education, 401 S. 9th St., Las Vegas 89101

Public. Raymond L. Sturm, area supt.
Jack W. Day, asst. prin. SNVTC
Robert J. Whelan, supv., Adult Education
Total enrolment: 700
Technician enrolment: 200
Accreditation: NWA
Admission: Vo-Tech Center—must have completed sophomore year; Ad. Ed.—variable
Data processing technology, architectural drafting technology, building construction technology, highway technology, aviation electronics technology*, computer technology, electronics technology, nursing, radiation technology*, graphic arts technology, airconditioning, heating, and refrigeration technology, automotive technology, aviation technology, drafting technology, industrial drafting and design technology, mechanical drafting technology

WHITE PINE HIGH SCHOOL,
844 Aultman St., Ely 89301
Public. Joseph Thiele, prin.
Charles Sindelar, dept. hd.
Total enrolment: 720
Technician enrolment: 80
Accreditation: NWA
Electronics technology, automotive technology, drafting technology, mechanical technology

NEW HAMPSHIRE

COLBY JUNIOR COLLEGE,
New London
Private. Everett M. Woodman, pres.
Eleanor Dodd, dean
Total enrolment: 554
Technician enrolment: 69
Accreditation: NEA
Medical records technology, medical technology

DOVER HIGH SCHOOL AND AREA VOCATIONAL SCHOOL,
Durham Rd., Dover 03820
Public. Bernard R. Smith, dir. of voc.-tech. center
Total enrolment: 1,200
Technician enrolment: 500
Accreditation: State Ed. Dept.
Admission: GATB
Building construction technology, electronics technology, industrial electronic technology, automotive technology, design technology*, drafting technology**, fluid power (engineering) technology*, hydraulics technology*, industrial drafting and design technology, machine tool technology, mechanical and production engineering technology*, mechanical technology**, food-processing technology, sheetmetal technology

NEW HAMPSHIRE TECHNICAL INSTITUTE,
Fan Rd., Concord 03301
Public. George M. Strout, dir.
Total enrolment: 313
Technician enrolment: 313
Admission: Varies with course selected
Data processing technology**, electrical technology**, electronics technology**, mechanical technology**

NEW HAMPSHIRE VOCATIONAL INSTITUTE,
150 Greenleaf Ave. at Jct. U. S. 1 By-Pass, Portsmouth 03801
Public. Emerson A. McCourt, dir.
Accreditation: State Ed. Dept.
Admission: High-school graduation with math and science background
Electrical technology**, electronics technology**, nursing, machine tool technology**, mechanical drafting technology**, welding technology*

STEVENS HIGH SCHOOL,
Broad St., Claremont 03743
Public. Frederick W. Carr, prin.
Victor Pomiecko, dept. hd.
Total enrolment: 930
Technician enrolment: 175
Accreditation: NEA, State Ed. Dept.
Building construction technology, industrial drafting and design technology, machine tool technology, mechanical drafting technology

THOMPSON SCHOOL OF APPLIED SCIENCE,
14 Putnam Hall, Durham 03824
Public. Philip S. Barton, dir.
Total enrolment: 250
Technician enrolment: 217
Accreditation: NEA, State Ed. Dept.
Admission: High-school graduation or 18 yrs. of age and 2 yrs. of high school
Agri-business technology, soils technology, forest technology, food-service management, animal science technology, plant science technology

NEW JERSEY

BERGEN COUNTY VOCATIONAL-TECHNICAL HIGH SCHOOL,
200 Hackensack Ave., Hackensack 07601
Public. Neal B. Perkins, supt.
Total enrolment: 2,901
Technician enrolment: 163
Accreditation: State Ed. Dept.
Admission: Ability to profit from instruction
Computer technology*, electrical technology*, electronics technology*, chemical technology*, airconditioning, heating, and refrigeration technology*, mechanical drafting technology*

BURLINGTON COUNTY VOCATIONAL-TECHNICAL SCHOOL,
Cadillac Rd., Burlington 08016
Public. John K. Ossi, dir.
Total enrolment: 250
Technician enrolment: 100
Accreditation: State Ed. Dept.
Admission: High-school graduation, aptitude test
Data processing technology**, computer technology**, electronic communications technology**, electronics technology**, auto-diesel technology**, drafting technology**

CAMDEN COUNTY VOCATIONAL-TECHNICAL HIGH SCHOOL,
6008 Browning Rd., Pennsauken
Public. Donald C. Springle, supt.
Total enrolment: 1,000
Technician enrolment: 300
Accreditation: State Ed. Dept.
Electronics technology, electrical technology, electronic communications technology, chemical technology, nucleonics, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology, machine tool technology

CAPE MAY COUNTY VOCATIONAL TECHNICAL CENTER,
Franklin St., Cape May 08204
Public. Robert Toft, supt.
Total enrolment: 740
Technician enrolment: 72
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Civil technology, surveying technology*, electronics technology**, drafting technology**

CUMBERLAND COUNTY COLLEGE,
P. O. Box 517, Vineland 08360
Public. Otto R. Mauke, dean of instruc.
Bernard G. Peltz, tech. ed. chm.
Total enrolment: 361
Technician enrolment: 27
Admission: High-school graduation, SAT
Industrial technology

ELECTRONICS TRAINING CENTER,
7300 Crescent Blvd., Pennsauken 08110
Private. M. Michael Freedland, adm.
H. J. Nice, dir.
Total enrolment: 350
Technician enrolment: 250
Accreditation: NATTS, State Ed. Dept.
Admission: High-school graduation
Computer technology**, commercial broadcast technology**, electrical technology**, electro-mechanical drafting tech-

nology**, electronic communications technology**, electronic drafting technology**, electronics technology**, industrial electronic technology**, microminiaturization technology**

Essex County Vocational and Technical High Schools,
209 Franklin St., Bloomfield. Adm. Offices: 90 Washington St., East Orange
Public: J. S. Umowski, prin.
Total enrolment: 1,935
Accreditation: State Ed. Dept.
Aeronautical technology**, drafting technology**, architectural drafting technology**, electrical technology**, electronics technology**, industrial electronic technology**, industrial technology**, drafting and tool design**, machine drafting and design**, machine tool technology**, mechanical design technology**, mechanical technology**, metallurgical technology**

Essex County Vocational and Technical High Schools,
1 University Pl., Irvington.
Adm. Offices: 90 Washington St., East Orange
Public. Joseph M. Fair, prin.
Total enrolment: 2,018
Accreditation: State Ed. Dept.
Electrical technology**, electronics technology**, mechanical technology**, mechanical drafting and design technology

Essex County Vocational and Technical High Schools,
275 Sussex Ave., Newark.
Adm. Offices: 90 Washington St., East Orange
Public. Edward J. Nugent, prin.
Total enrolment: 1,366
Accreditation: State Ed. Dept.
Admission: High-school graduation
Chemical and metallurgical technology**, electronics technology**, drafting and design**, electrical technology**, aeronautical technology**, industrial technology**, electronic data processing technology*, refrigeration and airconditioning technology**, architectural drafting technology*, mechanical technology**, photographic technology*

Essex County Vocational and Technical High Schools,
300 N. 13th St., Newark.
Adm. Offices: 90 Washington St., East Orange
Public. Rosalie C. Risinger, prin.
Total enrolment: 1,420
Accreditation: State Ed. Dept.
Commercial art and design technology, medical technology*, dental technology*, nursing*

J-C Technical Institute,
201 Market St., Paterson 07505
Private. Robert Fairless, dir.
A. Sifferlen, chief instructor
Total enrolment: 200
Technician enrolment: 200
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Computer technology, commercial broadcast technology, electrical technology, electro-mechanical drafting technology, electro-mechanical technology, electronic communications technology, electronic drafting technology, electronics technology, industrial electronic technology, drafting technology, mechanical drafting technology

J-C Technical Institute,
880 Bergen Ave., Jersey City 07306
Private. Leslie Balter, pres.
Wilbur Notbohm, dir.
Total enrolment: 350
Technician enrolment: 350
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Computer technology, commercial broadcast technology, electrical technology, electro-mechanical drafting technology, electro-mechanical technology, electronic communications technology, electronic drafting technology, electronics technology, industrial electronic technology, drafting technology, mechanical drafting technology

Matawan Regional High School,
Atlantic Ave., Matawan 07747
Public. John V. Caracciolo, prin.
Total enrolment: 1,300
Technician enrolment: 81
Accreditation: MSA
Electronic communications technology, machine tool technology

Mercer County Community College,
28 W. State St., Trenton 08608
Public. Richard K. Greenfield, pres.
Donald L. Suppers, tech. ed. chm.
Total enrolment: 1,700
Technician enrolment: 400
Accreditation: MSA
Admission: Good high-school record and satisfactory SAT score
Data processing technology, architectural drafting technology**, architectural engineering technology**, civil technology**, highway technology, electrical technology, electronics technology**, industrial electronic technology**, industrial drafting and design technology**, mechanical and production engineering technology

Middlesex County College,
Edison 08817
Public. Frank M. Chambers, pres.
David H. Tyrrell, chm., dept. of elec. tech.
Total enrolment: 750
Technician enrolment: 200
Admission: High-school graduation, varies from program to program
Electronics technology**, nursing, chemical technology**, biological laboratory technology**

Middlesex County Vocational-Technical High Schools and Adult Technical Schools,
256 Easton Ave., New Brunswick 08901
Public. Burr D. Coe, dir.
Total enrolment: 4,395
Technician enrolment: 729
Accreditation: State Ed. Dept.
Admission: High-school graduation, test battery
Architectural drafting technology*, architectural engineering technology*, electronics technology**, industrial electronic technology*, medical laboratory technology*, airconditioning, heating, and refrigeration technology*, industrial drafting and design technology**

Monmouth College,
West Long Branch 07764
Private. William G. Van Note, pres.
Kenneth C. Streibig, dean
Total enrolment: 4,625
Technician enrolment: 57
Accreditation: MSA
Electronics technology, medical laboratory technology

Monmouth County Technical Institute,
Sleepy Hollow Rd., Middletown 07728
Public. Donald P. Hoagland, supt.
Robert W. Leonard, asst. supt.
Total enrolment: 55
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Instrumentation technology, automotive technology, drafting technology

Newark College of Engineering,
Division of Technology, 323 High St., Newark 07102
Public. Clarence H. Stephans, dir., div. of tech.
Total enrolment: 6,690
Technician enrolment: 1,300
Admission: High-school graduation with 1 yr. of algebra
Architectural engineering technology, building construction technology, civil technology, surveying technology*, computer technology*, electrical technology,

electronics technology*, chemical technology, instrumentation technology*, metallurgical technology*, airconditioning, heating, and refrigeration technology*, drafting technology*, machine tool technology, mechanical drafting technology, fire-protection technology*, plastics technology

Newark School of Mechanical Dentistry,
127 Mulberry St., Newark 07102
Private. Manuel Gilman, pres.-dir.
Total enrolment: 70
Technician enrolment: 70
Admission: 2 yrs. high school, mechanical aptitude
Dental technology*

Ocean County College,
Toms River 08753
Public. Andrew S. Moreland, pres.
John L. Buzzi, tech. ed. chm.
Total enrolment: 1,050
Technician enrolment: 50
Admission: Open-door policy, 3 yrs. math and 2 yrs. lab science required for tech. students
Data processing technology**, civil technology**, electronics technology**

Passaic County Technical and Vocational High School,
Summer and Ellison Sts., Paterson 07501
Public. Joseph G. Hausmann, dir.
James J. Marion, prin.
Total enrolment: 675
Technician enrolment: 230
Accreditation: State Ed. Dept.
Admission: Completion of first year high school
Architectural drafting technology**, electronics technology**, airconditioning, heating, and refrigeration technology*, automotive technology*, drafting technology**, mechanical drafting technology**

Radio-Electronics-Television School,
255 Passaic Ave., Kearny
Private. L. Howard, pres.
Total enrolment: 516
Technician enrolment: 125
Accreditation: State Ed. Dept.
Admission: Personal interview
Electronics technology

RCA Technical Institute,
Rt. 38 and Haddonfield Rd., Cherry Hill 08101
Public. L. W. Snow, dir.
A. H. Zeppenfeld, senior instructor
Total enrolment: 530
Technician enrolment: 400
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Computer technology, electronics technology

Salem County Technical Institute,
P. O. Box 551, Penns Grove 08069
Public. Herbert C. Donaghay, dir.
Total enrolment: 1,000
Technician enrolment: 250
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Automotive technology, dietary technology, chemical technology**, drafting and design technology**, electrical technology*, electronics technology**, instrumentation technology**, laboratory technology, library technology**, mechanical technology**, nursing, scientific glassblowing technology**

Somerset County Technical Institute,
62 N. 2nd Ave., Raritan
Public. Robert Glassett, dir.
Robert Heroy, coord. tech. inst.
Total enrolment: 180
Technician enrolment: 100
Admission: High-school graduation, GATB
Building construction technology, electronics technology, mechanical drafting technology, airconditioning, heating, and refrigeration technology

Somerset County Vocational-Technical Schools,
Somerville 08876
Public. Robert Glassett, dir.
Total enrolment: 1,500
Technician enrolment: 150
Accreditation: State Ed. Dept.
Admission: High-school graduation and test
Building construction technology, electronics technology, mechanical drafting technology, airconditioning, heating, and refrigeration technology

Sussex County Vocational and Technical Schools,
County Svc. Bldg., Newton
Public. J. Cummings, dir.
Total enrolment: 256
Technician enrolment: 45
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, personal interview
Automotive technology, drafting and design technology, electronics technology, metals technology

Trenton Technical Institute,
636 E. State St., Trenton 08609
Private. John A. Freund, dir.
Total enrolment: 258
Technician enrolment: 258
Accreditation: State Ed. Dept.
Admission: High-school graduation
Data processing technology, electronics technology, drafting technology, data processing and comp. technology

Union County Technical Institute,
1160 Glove Ave., Mountainside
Public. George H. Baxel, supt.
Total enrolment: 200
Technician enrolment: 120
Accreditation: State Ed. Dept.
Admission: High-school graduation, admission tests
Data processing technology**, highway technology*, electronics technology**, chemical technology**, mechanical technology**

Union Technical Institute,
2000 Morris Ave., Union 07083
Private. Paul J. Barotta, pres.
Total enrolment: 200
Technician enrolment: 150
Accreditation: NATTS
Admission: Entrance exam
Electronics technology, drafting technology

Warren County Technical School,
151 W. Washington Ave., Washington 07882
Public. Charles F. Green, supt.
Total enrolment: 1,005
Technician enrolment: 510
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, aptitude test
Building construction technology*, electrical technology*, electronics technology**, nursing*, sanitary engineer technology*, graphic arts technology*, lithographic technology*, metallurgical technology*, automotive technology**, design technology**, drafting technology**, machine tool technology**, mechanical technology**

NEW MEXICO

Albuquerque High School,
110 Broadway, N.E., Albuquerque
Public. W. F. Wright, prin.
Total enrolment: 1,848
Technician enrolment: 140
Accreditation: NCA
Electronics technology, drafting and tool design, machine tool technology

Eastern New Mexico University,
Portales 88130
Public. Al Bettina, dean
R. C. Pendergraft, tech. ed. chm.
Total enrolment: 3,600
Technician enrolment: 85
Accreditation: NCA

Admission: High-school graduation, C average
Data processing technology, civil technology†, electrical technology, design drafting technology†

New Mexico Highlands University,
Las Vegas 87701
Public. Thomas C. Donnelly, pres.
Albert L. Soderblom, dir. of tech. ed.
Total enrolment: 1,718
Technician enrolment: 96
Accreditation: NCA
Admission: High-school graduation, C average
Electrical technology, electronics technology, machine tool technology

New Mexico Junior College,
Lovington Highway, Hobbs 88240
Public. H. C. Pannell, pres.
I. E. Siegenthaler, dean, voc.-ad. ed.
Total enrolment: 750
Technician enrolment: 355
Accreditation: State Ed. Dept.
Admission: High-school graduation or GED equivalency
Data processing technology, electronics technology, automotive technology, drafting technology, machine tool technology, nursing, welding technology

New Mexico State University,
Las Cruces 88001
Public. Roger B. Corbett, pres.
Louis W. Kleine, hd., eng. tech. dept.
Total enrolment: 6,115
Technician enrolment: 130
Accreditation: NCA
Admission: High-school graduation
Data processing technology, civil technology, electro-mechanical technology, electronics technology, mechanical technology

North American Technical Institute,
1606 Central, S.E., Albuquerque 87106
Private. Walter L. Johnston, pres.
Total enrolment: 200
Technician enrolment: 200
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, entrance exams
Computer technology, electronics technology, industrial electronic technology

Santa Fe High School,
200 Lincoln Ave., Santa Fe
Public. T. B. Walsh, prin.
Total enrolment: 1,685
Technician enrolment: 180
Accreditation: NCA
Automotive technology, drafting technology, machine tool technology

University of New Mexico,
Albuquerque 87106
Public. Tom L. Popejoy, pres.
Total enrolment: 12,979
Technician enrolment: 60
Accreditation: NCA
Admission: High-school graduation with certain specific subject matter requirements
Dental technology

NEW YORK

Academy of Aeronautics,
La Guardia Airport, Flushing 11371
Private. Walter M. Hartung, pres.
Robert J. Wear, dean of academic affairs
Total enrolment: 1,600
Technician enrolment: 1,600
Admission: High-school graduation with credits in algebra, geometry, science, entrance exam, recommendation
Electronics technology†, aerospace design technology†, aerospace mechanical technology†

Adirondack Community College,
Glen Falls 12801
Public. Charles R. Eisenhart, pres.
Arthur P. Trubiano, tech. ed. chm.
Total enrolment: 900
Accreditation: State Ed. Dept., SUNY
Admission: High-school graduation
Nursing, engineering science technology, drafting technology

Apex Technical School,
52 E. 19th St., New York 10003
Private. Ralph Herman, dir.
John Golden, tech. ed. chm.
Total enrolment: 350
Technician enrolment: 200
Accreditation: State Ed. Dept.
Airconditioning, heating, and refrigeration technology

Auburn Community College,
Franklin St., Auburn 13021
Public. Albert T. Skinner, pres.
Norman F. Bourke, dean
Total enrolment: 3,048
Technician enrolment: 1,114
Accreditation: MSA
Admission: High-school graduation, min. aver. of 75%
Data processing technology**, electrical technology**, electronics technology**, nursing*, X-ray technology*, engineering science technology**, fire-protection technology**

Bethpage High School,
Cherry and Stewart Aves., Bethpage 11714
Public. George C. McElroy, prin.
Robert J. Murphy, guid. chm.
Total enrolment: 1,900
Technician enrolment: 20
Accreditation: MSA, State Ed. Dept.
Architectural drafting technology, medical laboratory technology

Borough of Manhattan Community College, 134 W. 51st St.,
New York 10020
Public. Murray H. Block, pres.
Marvin Kushner, chm.
Total enrolment: 2,788
Technician enrolment: 110
Accreditation: MSA
Admission: High-school graduation, 4 units English, 2 units history, 1½ units math, 1 unit science, 75% average
Data processing technology**

Bronx Community College,
120 E. 184 St., Bronx 10468
Public. James A. Colston, pres.
Herbert Tyson, tech. ed. chm.
Total enrolment: 7,300
Technician enrolment: 5,000
Accreditation: MSA
Admission: CEEB, SAT
Data processing technology, electronics technology†, microminiaturization technology*, medical laboratory technology, nursing, engineering science technology, mechanical technology†

Broome Technical Community College,
Binghamton 13902
Public. Cecil C. Tyrrell, pres.
Total enrolment: 3,446
Technician enrolment: 632
Accreditation: MSA
Civil technology**†, electronics technology**†, medical laboratory technology, nursing, X-ray technology, environmental health technology, mechanical technology**†

Buffalo Board of Co-Op Educational Services,
First Supervisory District, Erie County,
99 Aero Dr., Buffalo 14225
Public. Ernest H. Hoeldtke, supt.
Total enrolment: 1,200
Technician enrolment: 135
Accreditation: State Ed. Dept.
Industrial electronic technology, nursing, airconditioning, heating, and refrigeration technology, machine tool technology, mechanical drafting technology, mechanical technology

Calhoun High School,
District #3, State St., Merrick 11566
Public. G. Wayne Dameron, dir. of voc. ed.
Total enrolment: 1,857
Technician enrolment: 39
Accreditation: State Ed. Dept.

Admission: Completion of 9th grade, ability to be successful in Regents level
Instrumentation technology

Central School District #4,
Plainview 11803
Public. John H. Mulski, dir.
Irving Chaimowitz, tech. ed. chm.
Total enrolment: 2,400
Technician enrolment: 75
Accreditation: State Ed. Dept.
Electronics technology

Central Technical High School,
717 S. Warren St., Syracuse 13202
Public. William E. Haws, dir. of tech.-voc. ed.
Vernon Witmer, prin. of eve. ext. program
Total enrolment: 2,200
Technician enrolment: 1,400
Accreditation: MSA, State Ed. Dept.
Admission: Ability to profit from instruction
Data processing technology**, building construction technology**, computer technology, electrical technology**, electronic drafting technology, electronics technology**, industrial electronic technology*, nursing*, chemical technology, graphic arts technology**, instrumentation technology*, metallurgical technology*, airconditioning and refrigeration technology**, automotive technology**, drafting technology**, fluid power (engineering) technology*, hydraulics technology*, industrial drafting and design technology**, machine tool technology**, mechanical drafting technology**, mechanical technology*

Corning Community College,
Corning
Public. W. L. Perry, pres.
Total enrolment: 1,400
Technician enrolment: 200
Accreditation: MSA, State Ed. Dept.
Admission: High-school graduation
Mechanical technology, nursing, chemical technology, engineering science technology

Dutchess Community College,
Pendell Rd., Poughkeepsie 12601
Public. James F. Hall, pres.
Lawrence H. Monaco, dean of col. tech. div.
Total enrolment: 3,377
Technician enrolment: 970
Accreditation: MSA, State Ed. Dept.
Admission: High-school graduation or equivalent
Commercial design technology, data processing technology**, architectural drafting technology, electrical technology**, nursing, chemical technology, mechanical technology, engineer-science, dental assisting, medical assisting

Eastern School for Physicians' Aides,
85—5th Ave., New York 10003
Private. Henry Young, dir.
Alberto Lamela, dean of faculty
Total enrolment: 316
Technician enrolment: 124
Accreditation: State Ed. Dept., SUNY
Admission: High-school graduation or equivalent
Medical laboratory technology*, medical records technology

Edison Technical-Industrial High School,
725 Clifford Ave., Rochester 14621
Public. Ingraham Humphrey, prin.
Total enrolment: 1,440
Technician enrolment: 352
Accreditation: MSA, State Ed. Dept.
Admission: School entrance exam
Structural engineering and design technology, electrical technology, electronics technology, instrumentation technology, design technology, machine tool technology

Erie County Technical Institute,
Main and Youngs Rd., Buffalo 14221
Public. James E. Shenton, pres.
Norvin T. Whitmore, dean
Total enrolment: 2,375
Technician enrolment: 1,600
Admission: High-school graduation with recommendation, satisfactory scores on State University entrance exam
Data processing technology**, civil technology**†, electrical technology**†, dental technology, medical laboratory technology**, optical technology, chemical technology**†, metallurgical technology**, industrial technology**, mechanical technology**†, food-service administration, medical office assistant**, police science**

Fulton-Montgomery Community College,
Johnstown 12095
Public. W. L. Grace, pres.
Total enrolment: 800
Technician enrolment: 400
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Electrical technology

Hornell Senior High School,
Maple City Park, Hornell 14843
Public. Robert J. Johnson, prin.
Sumner Munn, tech. ed. chm.
Total enrolment: 860
Technician enrolment: 50
Accreditation: MSA
Electrical technology

Hudson Valley Community College,
Vandenburgh Ave., Troy 12180
Public. James J. Fitzgibbons, pres.
Paul F. Goliber, dir., tech. div.
Total enrolment: 2,804
Technician enrolment: 850
Accreditation: State Ed. Dept.
Admission: High-school graduation
Data processing technology**, architectural drafting technology*, building construction technology*, construction technology, civil technology, computer technology*, electrical technology**, electronic communications technology*, dental hygiene technology, public health technology**, nursing, medical laboratory technology, radiological health technology, X-ray technology, chemical technology**, engineering science technology, airconditioning, heating, and refrigeration technology**, automotive technology**, machine tool technology*, mechanical technology**

Island Drafting School,
128 Broadway, Amityville 11701
Private. Joseph P. DiLiberto, pres.
Total enrolment: 150
Technician enrolment: 150
Accreditation: NATTS, State Ed. Dept.
Admission: High-school graduation
Architectural drafting technology*, electrical technology*, electro-mechanical drafting technology*, electronic drafting technology*, electronics technology*, drafting technology*, mechanical drafting technology*

Jamestown Community College,
525 Falconer St., Jamestown 14701
Public. Robert J. Pasciullo, dir.
Marion A. Panzarella, tech. ed. chm.
Total enrolment: 1,300
Technician enrolment: 250
Accreditation: MSA, SUNY
Admission: High-school graduation or equivalent
Data processing technology*, building construction technology*, surveying technology*, electrical technology, electronics technology, medical laboratory technology, nursing, combustion power technology*, internal combustion (engineering) technology*, drafting technology*, industrial drafting and design technology*, machine tool technology*, mechanical and production engineering technology*, mechanical drafting technology*, mechanical technology

Jamestown High School,
350 E. Second St., Jamestown 14701
Public. John M. Woodruff, coord.

Total enrolment: 2,000
Technician enrolment: 79
Accreditation: State Ed. Dept.
Admission: Average or above average ability, math and science background
Electrical technology, mechanical technology

JEFFERSON COMMUNITY COLLEGE,
P. O. Box 255, Watertown 13601
Public. J. E. McVean, pres.
Total enrolment: 645
Admission: High-school graduation or equivalent
Dental technology*

KERPEL SCHOOL OF DENTAL TECHNOLOGY,
127 Columbus Ave., New York 10023
Private. Julius A. Kerpel, pres.
Total enrolment: 200
Technician enrolment: 200
Accreditation: SUNY
Admission: Successful completion of free trial week of training
Dental technology**

LAWRENCE HIGH SCHOOL,
Reilly Rd., Cedarhurst
Public. Eckardt Beck, dir.
Total enrolment: 2,074
Technician enrolment: 36
Accreditation: State Ed. Dept.
Electrical technology, electronics technology

LEVITTOWN PUBLIC SCHOOLS (UNION FREE SCHOOL DISTRICT NO. 5),
North Village Green, Levittown 11756
Public. Richard Klett, dir. of voc. ed.
Total enrolment: 18,000
Technician enrolment: 350
Accreditation: State Ed. Dept.
Admission: Varies with program
Electronics technology, printing and photoengraving technology, mechanical design and metallurgy, data processing technology, instrumentation technology

MANDL SCHOOL FOR MEDICAL AND DENTAL ASSISTANTS,
175 Fulton Ave., Hempstead, L. I. 11550
Private. Belle Edelson, dir.
Total enrolment: 204
Accreditation: NATTS
Admission: High-school graduation or equivalent
Medical assistant, dental assistant

MANDL SCHOOL FOR MEDICAL AND DENTAL ASSISTANTS,
254 W. 54th St., New York 10019
Private. Allan L. Deis, dir.
Accreditation: NATTS
Admission: High-school graduation or equivalent
Medical assistant, laboratory techniques, dental assistant

MANHATTAN TECHNICAL INSTITUTE,
154 W. 14th St., New York 10011
Private. Herbert K. Swarte, dir.
Total enrolment: 400
Admission: Math background
Architectural drafting, building construction, structural drafting, electrical-electronic drafting, design machine, mechanical drafting, industrial production methods, technical illustration

MOHAWK VALLEY COMMUNITY COLLEGE,
110 Sherman Dr., Utica 13501
Public. Albert V. Payne, pres.
Total enrolment: 3,956
Technician enrolment: 687
Accreditation: MSA
Admission: High-school graduation or equivalent, satisfactory scores on testing program, 1 to 3½ yrs. of math
Data processing technology*, statistical technology*, civil technology**, computer technology*, electrical technology**†, nursing, engineering science technology**, airconditioning, heating, and refrigeration technology*, design technology*, drafting technology*, industrial technology*, mechanical drafting technology*, mechanical technology**†

NASSAU COUNTY TECHNICAL AND TRADE TRAINING CENTER,
36 New York Ave., Westbury 11590
Public. Arthur H. Side, prin.
Accreditation: State Ed. Dept.
Admission: Aptitude tests, I.Q. test, recommendation from guid. office
Data processing technology, computer technology, electrical technology, electronics technology, industrial electronic technology, dental technology, medical technology, lithographic technology, airconditioning, heating, and refrigeration technology, automotive technology, design technology, drafting technology, mechanical drafting technology, food-processing technology

NEW YORK CITY COMMUNITY COLLEGE,
300 Pearl St., Brooklyn 11201
Public. Milton G. Bassin, pres.
S. M. Brodsky, coord., div. of tech.
Total enrolment: 9,700
Technician enrolment: 7,580
Accreditation: MSA
Data processing technology, publications technology, construction technology, electrical technology, electro-mechanical technology, dental technology, medical laboratory technology, nursing, optical technology, X-ray technology, chemical technology, graphic arts technology, design technology, drafting technology, mechanical technology, fire-protection technology

NEW YORK INSTITUTE OF DIETETICS,
116 W. 14th St., New York 10011
Private. Helen S. Doneger, dir.
Total enrolment: 225
Technician enrolment: 225
Accreditation: NATTS, State Ed. Dept.
Admission: High-school graduation or equivalent
Dietetics

NEWFIELD HIGH SCHOOL,
Middle County Central School District No. 11, Selden, L. I.
Public. George R. Harrison, dir., voc.-tech. ed.
Accreditation: State Ed. Dept.
Admission: Aptitude tests
Electrical technology**, electronics technology**, nursing, automotive technology**

NIAGARA COUNTY COMMUNITY COLLEGE,
430 Buffalo Ave., Niagara Falls 14303
Public. Ernest Notar, pres.
Donald H. Stellrecht, tech. ed. chm.
Total enrolment: 1,251
Technician enrolment: 200
Accreditation: State Ed. Dept.
Admission: High-school graduation and specific subjects related to the technologies
Electronics technology**, nursing, mechanical technology, dental assisting, industrial laboratory technology

NORTH TONAWANDA SENIOR HIGH SCHOOL,
405 Meadow Dr., North Tonawanda 14120
Public. Joseph Dorczak, dir., trade and tech. ed.
Total enrolment: 1,860
Technician enrolment: 30
Accreditation: MSA
Admission: 85% scholastic average
Electrical technology, nursing

OLEAN HIGH SCHOOL,
4th and Sullivan, Olean
Public. W. J. O'Connell, dir. of voc. ed.
Total enrolment: 1,020
Technician enrolment: 320
Accreditation: State Ed. Dept.
Construction technology, electronics technology, industrial electronic technology, industrial drafting and design technology

ONONDAGA COMMUNITY COLLEGE,
700 E. Water St., Syracuse 13210
Public. Marvin A. Rapp, pres.
William Kroll, chm., tech. ed.
Total enrolment: 1,100

Technician enrolment: 200
Accreditation: State Ed. Dept.
Admission: High-school graduation and exams
Electrical technology**, dental hygiene**, medical laboratory technology**, nursing**, chemical technology**, mechanical technology**

Orange County Community College,
Middletown 10940
Public. Robert T. Novak, pres.
Robert Greenman, academic dean
Total enrolment: 3,411
Technician enrolment: 255
Accreditation: MSA
Admission: High-school graduation or equivalent
Data processing technology, architectural drafting technology*, electrical technology, medical laboratory technology, nursing, chemical technology, mechanical technology

Potter Road Occupational Center,
705 Potter Rd., West Seneca 14224
Public. Donald H. Dayer, prin.
Total enrolment: 530
Technician enrolment: 70
Accreditation: State Ed. Dept.
Admission: Must be enrolled in a public high school in Erie Cty. #1
Industrial electronic technology, nursing, airconditioning, heating, and refrigeration technology, automotive technology, machine tool technology, mechanical and production engineering technology, food-processing technology

Poughkeepsie High School,
Forbus and May Sts., Poughkeepsie 12601
Public. Frank Bugar, prin. Carlton D. Durfey, dir., voc.-tech. ed.
Total enrolment: 2,635
Technician enrolment: 623
Accreditation: State Ed. Dept.
Admission: 4 units of satisfactory grades and subjects
Electronics technology*†, graphic arts technology**†, automotive technology*†, drafting technology*†, mechanical technology*†, welding technology*

Pratt Institute,
Brooklyn 11205
Private. Richard H. Heindel, pres.
Total enrolment: 4,700
Accreditation: MSA, National Architectural Accrediting Board, American Library Assoc.
Admission: High-school graduation, SAT, CEEB
Commercial design technology, publications technology, architectural drafting technology, building construction technology, construction technology, ceramic technology, graphic arts technology, lithographic technology

Queensborough Community College,
Bayside 11364
Public. John O. Riedl, acting dean in chg.
Total enrolment: 1,500
Technician enrolment: 200
Accreditation: MSA
Admission: High-school graduation, 2 yrs. high-school math
Electrical technology†, mechanical technology

RCA Institutes,
350 W. 4th St., New York 10014
Private. A. L. Baker, pres.
Total enrolment: 3,800
Technician enrolment: 2,000
Admission: High-school graduation, 3 yrs. math, 1 yr. physics
Computer technology*, commercial broadcast technology*, electrical technology†, electronic communications technology†, electronics technology†, industrial electronic technology*

Rockland Community College,
145 College Rd., Suffern 10901
Public. Seymour Eskow, pres.
Total enrolment: 3,000
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, ability to do college-level work
Computer technology*, dental technology*, nursing, chemical technology, graphic arts technology, biological technology

Samuel Gomper Vocational Technical High School,
455 Southern Blvd., Bronx
Public. William [illegible]. Haatwalker, prin.
Total enrolment: 2,000
Technician enrolment: 500
Accreditation: MSA
Admission: Technical courses by examination only
Electrical technology, electronics technology

Saunders Trades and Technical High School, 104 S. Broadway, Yonkers 10701
Public. George L. Kleitz, dir. of voc. ed.
Total enrolment: 520
Technician enrolment: 179
Accreditation: State Ed. Dept.
Admission: Completion of 9th grade
Architectural drafting technology, building construction technology, electrical technology, chemical technology, instrumentation technology, lithographic technology, industrial drafting and design technology, machine tool technology, mechanical drafting technology, mechanical technology

Sewanhaka High School,
500 Tulip Ave., Floral Park, L. I.
Public. Henry F. Wessels, dist. dir.
Total enrolment: 2,200
Technician enrolment: 1,020
Accreditation: MSA, State Ed. Dept.
Admission: Excellence in math and science, passing grades in mandated subjects
Ornamental horticulture, data processing technology, architectural drafting technology, architectural engineering technology, building construction technology, construction technology, computer technology, electrical technology, electronic drafting technology, electronics technology, graphic arts technology, instrumentation technology, lithographic technology, metallurgical technology, automotive technology, design technology, drafting technology, hydraulics technology, industrial drafting and design technology, machine tool technology, mechanical drafting technology, mechanical technology

State University of New York, Agricultural and Technical College at Alfred,
Alfred 14802
Public. David H. Huntington, pres.
Total enrolment: 1,862
Technician enrolment: 1,862
Accreditation: MSA
Admission: Upper one-half of graduating class and curriculum requirements
Agri-business technology, architectural engineering technology, soils technology, data processing technology, construction technology†, civil technology†, surveying technology, audiovisual technology, electrical technology, electronic communications technology†, electronics technology, industrial electronic technology, medical laboratory technology, medical records technology, nursing, chemical technology, airconditioning, heating, and refrigeration technology†, auto-diesel technology, automotive technology, design technology, drafting technology, industrial drafting and design technology, industrial technology, machine tool technology†, mechanical and production engineering technology, mechanical drafting technology, mechanical technology, food-processing technology

State University of New York, Agricultural and Technical College at Canton,
Canton 13617

Public. Albert E. French, pres.
Harold Porter, dean of instruc.
Total enrolment: 1,300
Technician enrolment: 1,100
Accreditation: MSA, State Ed. Dept.
Admission: High-school graduation with math and science requirements
Agri-business technology**, agricultural engineering technology**, data processing technology, civil technology**, electrical technology**†, nursing, engineering science technology**, airconditioning, heating, and refrigeration technology**†, automotive technology**†, mechanical technology**†

STATE UNIVERSITY OF NEW YORK, AGRICULTURAL AND TECHNICAL COLLEGE AT COBLESKILL,
Cobleskill 12043
Public. Walton A. Brown, pres.
Charles M. Gaffney, vice pres.
Total enrolment: 1,450
Technician enrolment: 1,250
Accreditation: MSA
Admission: High-school graduation
Agri-business technology, agricultural engineering technology, soils technology, data processing technology, chemical technology, industrial technology, food-service administration, ornamental horticulture, dairy and food technology, industrial laboratory technology

STATE UNIVERSITY OF NEW YORK, AGRICULTURAL AND TECHNICAL COLLEGE AT DELHI,
Delhi 13753
Public. William R. Kunsela, pres.
B. Klare Sommers, dean of instruc.
Total enrolment: 1,269
Technician enrolment: 268
Accreditation: MSA
Admission: High-school graduation or equivalent, prerequisites for specific programs, exams
Agricultural engineering technology**, building construction technology**, construction technology**, civil technology**, highway technology**, airconditioning, heating, and refrigeration technology**

STATE UNIVERSITY OF NEW YORK, AGRICULTURAL AND TECHNICAL COLLEGE AT FARMINGDALE,
Farmingdale 11735
Public. Charles W. Laffin, Jr., pres.
Total enrolment: 8,750
Technician enrolment: 3,250
Accreditation: MSA
Admission: High-school graduation with units of math and science dependent upon curriculum area chosen
Agri-business technology, agricultural engineering technology, soils technology**, data processing technology**, architectural drafting technology**, architectural engineering technology, building construction technology, construction technology**†, civil technology, highway technology†, computer technology*, electrical technology**, electronics technology†, nursing, chemical technology**, engineering science technology, graphic arts technology*, metallurgical technology*, airconditioning, heating, and refrigeration technology**†, automotive technology**†, aviation technology, industrial illustration technology*, machine tool technology*, mechanical and production engineering technology, mechanical drafting technology*, mechanical technology**†, photographic technology, dental hygiene, biological technology**, police science

STATE UNIVERSITY OF NEW YORK, AGRICULTURAL AND TECHNICAL COLLEGE AT MORRISVILLE,
Morrisville 13408
Public. Royson N. Whipple, pres.
Total enrolment: 1,650
Technician enrolment: 1,600
Accreditation: MSA
Admission: High-school graduation, CEEB, required subjects depending on curriculum
Automotive technology, electrical technology, industrial instrumentation technology, mechanical technology, engineering science, wood utilization technology, plastics technology, public health technology, data processing technology, food-processing technology, medical laboratory technology, nursing, journalism technology

STATEN ISLAND COMMUNITY COLLEGE,
715 Ocean Terrace, Staten Island 10301
Public. Walter L. Willig, pres.
Total enrolment: 2,491
Accreditation: MSA
Admission: High-school graduation or equivalent
Civil technology, structural engineering and design technology, electronic communications technology, electronic drafting technology, medical technology, nursing, mechanical technology

SUFFOLK COUNTY COMMUNITY COLLEGE,
533 College Rd., Selden 11784
Public. Albert M. Ammerman, pres.
Total enrolment: 4,652
Technician enrolment: 877
Accreditation: MSA
Admission: High-school graduation or equivalent
Data processing technology, electrical technology, electronics technology, nursing, design technology, drafting technology, industrial drafting and design technology, mechanical technology, fire-protection technology

SULLIVAN COUNTY COMMUNITY COLLEGE,
South Fallsburg 12779
Public. Richard F. Grego, pres.
Total enrolment: 900
Technician enrolment: 175
Accreditation: State Ed. Dept.
Admission: High-school graduation plus GATB
Commercial design technology, construction technology, industrial laboratory technology, drafting technology, medical laboratory assisting

TROTT VOCATIONAL HIGH SCHOOL,
11th St. and Ashland Ave., Niagara Falls
Public. C. M. Armstrong, prin.
Industrial chemistry, structural drafting and design

ULSTER COUNTY COMMUNITY COLLEGE,
Kingston and Stone Ridge 12401
Public. Dale B. Lake, pres.
Walter Hopkins, chm., eng.-ind. tech. div.
Total enrolment: 1,350
Technician enrolment: 200
Accreditation: SUNY
Admission: High-school graduation
Data processing technology*, electronics technology, medical laboratory technology, nursing, engineering science technology, industrial technology, mechanical technology, science laboratory technology

VOORHEES TECHNICAL INSTITUTE,
450 W. 41st St., New York 10036
Private. Edwin H. Miner, pres.
Total enrolment: 450-500
Technician enrolment: 450-500
Accreditation: State Ed. Dept.
Admission: High-school graduation, 2 yrs. high-school math, 1 yr. science
Building construction technology**, scientific and technical programing technology, electronics technology**, lithographic technology**, airconditioning, heating, and refrigeration technology**, automotive technology**, machine tool design technology**

W. TRESPER CLARKE HIGH SCHOOL,
East Meadow School District, Edgewood Dr., Westbury 11590
Public. Matthew M. Graham, dir. of ad.-voc. ed.
Total enrolment: 520
Technician enrolment: 201
Accreditation: State Ed. Dept.
Data processing technology*, architectural

drafting technology, building construction technology, structural engineering and design technology, computer technology, electronics technology, nursing, graphic arts technology, automotive technology, mechanical drafting technology, mechanical technology

Westchester Community College,
75 Grasslands Rd., Valhalla 10595
Public. Philip C. Martin, pres.
Harold B. Desmoyers, chm., tech. ed.
Total enrolment: 5,076
Technician enrolment: 1,445
Accreditation: N. Y. State Regents
Admission: High-school graduation or equivalent, CEEB, SAT, math and science background
Civil technology, electrical technology, medical laboratory technology, chemical technology, engineering science technology, mechanical technology

William E. Grady Vocational-Technical High School,
25 Brighton 4th Rd., Brooklyn 11235
Public. Irving Waldt, prin.
Total enrolment: 1,600
Technician enrolment: 200
Accreditation: State Ed. Dept.
Admission: Aptitude exam
Electronics technology

NORTH CAROLINA

Agricultural and Technical College,
Greensboro 27411
Public. Lewis C. Dowdy, pres.
S. C. Smith, dean, school of ind.
Total enrolment: 3,595
Technician enrolment: 173
Accreditation: SA
Admission: 16 acceptable high-school units including 4 in English, 2 in math, 1 in science, 1 in social science
Architectural drafting technology, building construction technology, electrical technology, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology, mechanical technology

Asheville-Buncombe Technical Institute,
340 Victoria Rd., Asheville 28801
Public. Thomas W. Simpson, pres.
Harvey L. Haynes, dir. of instruc.
Total enrolment: 9,000
Technician enrolment: 350
Accreditation: State Ed. Dept.
Admission: 16 yrs. old, high-school graduate, admissions tests, personal interview
Data processing technology, civil technology, electronics technology, chemical technology, airconditioning, heating, and refrigeration technology, diesel technology, automotive technology, industrial drafting and design technology, mechanical and production engineering technology, tool and die making, welding

Caldwell Technical Institute,
P. O. Box 600, Lenoir 28645
Public. H. Edwin Beam, pres.
Total enrolment: 300
Technician enrolment: 100
Accreditation: State Ed. Dept.
Admission: 18 yrs. of age, high-school diploma for tech. classes
Data processing technology, aviation technology*, design technology, drafting technology, library technology

Cape Fear Technical Institute,
411 N. Front St., Wilmington 28401
Public. M. J. McLeod, pres.
Matthew C. Donahue, dir. of tech.-voc. training
Total enrolment: 8,153
Technician enrolment: 296
Accreditation: State Ed. Dept.
Admission: High-school graduation, subject preparation varies with field
Agri-business technology*, building construction technology*, construction technology*, surveying technology*, electrical technology*, electronics technology**, nursing, ceramic technology*, chemical technology, instrumentation technology, textile engineering technology*, airconditioning, heating, and refrigeration technology**, automotive technology, internal combustion (engineering) technology*, design technology, drafting technology, industrial drafting and design technology, machine tool technology, mechanical drafting technology, fire-protection technology*, chemical technology, marine technology, marine diesels**, radio and television**

Catawba Valley Technical Institute,
Hickory 28601
Public. Robert E. Paap, pres.
Craven H. Sumerell, voc.-tech. dir.
Total enrolment: 5,983
Technician enrolment: 525
Accreditation: State Dept. of Community Colleges
Admission: High-school graduation or equivalent
Agri-business technology**, agricultural engineering technology*, soils technology*, architectural drafting technology**, electrical technology**, electronics technology**, nursing, automotive technology, mechanical drafting technology, ornamental horticulture, furniture technology, furniture drafting technology

Central Carolina Technical Institute,
P. O. Box 27, Sanford 27330
Public. W. A. Martin, pres.
George I. Resseguie, dean of instruc.
Total enrolment: 200
Technician enrolment: 100
Admission: High-school graduation, varying specialty requirements according to program
Agri-business technology, animal hospital technology, agricultural research technology, architectural drafting technology*, electronics technology**, industrial drafting and design technology**, mechanical drafting technology*

Central Piedmont Community College,
1141 Elizabeth Ave., P. O. Box 4009, Charlotte 28204
Public. Richard H. Hagemeyer, pres.
Dean B. Davis, dean, tech.-voc. div.
Total enrolment: 3,215
Technician enrolment: 1,574
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Commercial design technology, data processing technology, construction technology, civil technology*, electrical technology, electronics technology, dental technology, medical records technology, nursing, chemical technology, airconditioning, heating, and refrigeration technology*, automotive technology*, industrial drafting and design technology, mechanical and production engineering technology, fire-protection technology*, food-processing technology*, police science*

Chowan College,
Murfreesboro 27855
Private. Bruce E. Whitaker, pres.
John McSweeny, tech. ed. chm.
Total enrolment: 1,200
Technician enrolment: 60
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation
Civil technology, graphic arts technology, lithographic technology

College of the Albemarle,
Elizabeth City 27909
Public. Thomas Jordan, act. dir.
Earl N. Gulledge, asst. prof.
Total enrolment: 491
Technician enrolment: 47
Accreditation: N. C. Assoc. of Universities and Colleges
Admission: High-school graduation
Architectural drafting technology, computer technology, electrical technology, electronic communications technology, electronics technology, industrial electronic technology, microminiaturization tech-

nology, metallurgical technology, automotive technology, design technology, drafting technology, machine tool technology, mechanical drafting technology

DURHAM TECHNICAL INSTITUTE,
P. O. Box 11307, 1637 Lawson St., Durham 27703
Public. Harold K. Collins, pres.
J. M. Lowder, Jr., dir., tech.-voc. div.
Total enrolment: 659
Technician enrolment: 346
Accreditation: N. C. Dept. of Community Colleges, American Dental Assoc., Council on Dental Ed.
Admission: High-school graduation or equivalent
Civil technology, electrical technology**, electronics technology**, industrial electronic technology**, dental laboratory technology, chemical technology, automotive technology**, mechanical and production engineering technology**, mechanical drafting technology**

FAYETTEVILLE TECHNICAL INSTITUTE,
P. O. Box 5236, Fayetteville 28303
Public. Howard E. Boudreau, pres.
William E. Sease, dir. of instruc.
Total enrolment: 1,300
Technician enrolment: 330
Accreditation: State Ed. Dept.
Admission: High-school graduation or 18 yrs. of age and approved equivalent education
Agri-business technology**, architectural drafting technology*, building construction technology*, civil technology, electrical technology*, electronic communications technology*, electronics technology, industrial electronic technology*, medical records technology*, nursing*, sanitary engineer technology, instrumentation technology*, airconditioning, heating, and refrigeration technology**, automotive technology**, combustion power technology*, internal combustion (engineering) technology*, mechanical drafting technology, fire-protection technology*, food-processing technology*

FORSYTH TECHNICAL INSTITUTE,
2100 Link Rd., Winston-Salem 27103
Public. Ernest B. Parry, pres.
Total enrolment: 594
Technician enrolment: 297
Accreditation: Dept. of Community Colleges
Admission: High-school graduation, GATB, 1 unit in algebra and 1 unit in plane geometry required
Agri-business technology, electronics technology, graphic arts technology, mechanical drafting technology, mechanical technology, horticulture

GARDNER-WEBB COLLEGE,
Boiling Springs
Public. Robert B. Isner, dean
Total enrolment: 943
Technician enrolment: 53
Accreditation: SA
Admission: High-school graduation and CEEB
Soils technology, data processing technology, dental technology, medical technology, nursing

GASTON COLLEGE,
P. O. Box 1397, Gastonia 28052
Public. Thomas Cottingham, act. pres.
W. Robert Halstead, vice-pres.
Total enrolment: 882
Technician enrolment: 295
Admission: High-school graduation or equivalent, 2 units algebra, 1 units physical science (preferably physics) strongly recommended
Mechanical and production engineering technology*†, civil engineering technology*†, chemical engineering technology**, electrical engineering technology*†, electronics engineering technology*†, industrial engineering technology**

ISOTHERMAL COMMUNITY COLLEGE,
P. O. Box 804, Spindale 28160
Public. Fred J. Eason, pres.
Garland E. Denning, tech. ed. chm.
Total enrolment: 300
Technician enrolment: 60
Accreditation: State Ed. Dept.
Admission: Open door
Electronics technology, nursing

JAMES SPRUNT INSTITUTE,
Kenansville
Public. Dixon S. Hall, pres.
Thomas Hall, tech. ed. chm.
Accreditation: State Ed. Dept.
Admission: Open-door policy
Agri-business technology, commercial art and design technology, architectural drafting technology, electrical technology*, nursing, ceramic technology*, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology, fire-protection technology*

LEAKSVILLE-ROCKINGHAM COUNTY INDUSTRIAL EDUCATION CENTER,
Stadium Dr., Spray
Public. G. W. Armfield, asst. dir.
Total enrolment: 976
Admission: High-school graduation or equivalent, satisfactory GATB score
Drafting technology, electronics technology, machine drafting and design mechanical technology, textile technology

LEES-MCRAE COLLEGE,
Banner Elk 28604
Private. Max C. Chapman, pres.
Total enrolment: 630
Technician enrolment: 100
Accreditation: SA
Medical records technology, drafting technology

LENOIR COUNTY COMMUNITY COLLEGE,
P. O. Box 188, Kinston 28501
Public. Ben E. Fountain, Jr., pres.
Total enrolment: 170
Technician enrolment: 40
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Agri-business technology**, ornamental horticulture**, electronics technology**, chemical technology**, mechanical drafting technology**

PITT TECHNICAL INSTITUTE,
P. O. Box 97, Greenville 27834
Public. William E. Fulford, Jr., pres.
W. H. Howell, tech. ed. chm.
Total enrolment: 6,500
Technician enrolment: 325
Accreditation: State Ed. Dept.
Admission: High-school graduation for all technical programs
Agri-business technology**, soils technology**, architectural drafting technology**, electrical technology**, electronic communications technology**, electronics technology**, industrial electronic technology**, nursing**, automotive technology**, drafting technology**, machine tool technology**, mechanical technology**, fire-protection technology**, food-processing technology**

RANDOLPH TECHNICAL INSTITUTE,
Drawer 1009, Asheboro 27203
Public. M. H. Branson, pres.
L. K. Linker, dir., voc.-tech. programs
Total enrolment: 600
Technician enrolment: 45
Accreditation: State Ed. Dept.
Admission: High-school graduation, algebra 1 and 2, business math
Agri-business technology**, architectural drafting technology*, electrical technology*, nursing, electronics technology, drafting and design, electrical installation and maintenance, welding

ROCKINGHAM COMMUNITY COLLEGE,
Wentworth 27375
Public. Gerald B. James, pres.
A. C. Wilson dir. of occ. ed.
Total enrolment: 650
Technician enrolment: 150
Admission: High-school graduation, SAT
Publications technology, computer technol-

ogy, nursing, textile engineering technology, design technology, drafting technology, mechanical and production engineering technology, mechanical drafting technology, fire-protection technology*, food-processing technology*

Rowan Technical Institute,
P. O. Box 1555, Salisbury 28144
Public. C. Merrill Hamilton, pres.
Gene H. Phillips, tech. ed. chm.
Total enrolment: 1,000
Technician enrolment: 200
Accreditation: State Ed. Dept.
Admission: High-school graduation
Electronics technology**, drafting and design technology**, mechanical engineering technology, fire and safety engineering technology**, fire science technology**

Sandhills Community College,
P. O. Box 1379, Southern Pines 28387
Public. Raymond A. Stone, pres.
Henry I. Rahn, Jr., dir., tech.-voc. ed.
Total enrolment: 650
Technician enrolment: 250
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, testing, and counseling
Ornamental horticulture, commercial broadcast technology*, nursing, design drafting technology

Southeastern Community College,
P. O. Box 151, Whiteville 28472
Public. W. L. Eddins, act. pres.
George Howard, dean of tech. voc.
Total enrolment: 517
Technician enrolment: 115
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation
Agri-business technology*, architectural engineering technology*, construction technology*, electrical technology**, electronics technology**, medical records technology, nursing, forest products technology*, graphic arts technology*, auto-diesel technology**, automotive technology**, machine tool technology**

Technical Institute of Alamance,
411 Camp Rd., Burlington
Public. W. E. Taylor, pres.
Total enrolment: 2,585
Technician enrolment: 439
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent; other requirements vary with course desired
Airconditioning and heating technology, electronic data processing technology, electronics technology, commercial design technology, chemical technology, mechanical and production engineering technology, mechanical drafting technology

W. W. Holding Technical Institute,
Rt. 3, P. O. Box 127, Raleigh 27603
Public. Robert W. LeMay, Jr., pres.
Total enrolment: 400
Technician enrolment: 175
Admission: High-school graduation or equivalent
Data processing technology**, architectural drafting technology, civil technology, electrical technology**, electronics technology**, chemical technology, graphic arts technology*, automotive technology*, drafting technology*, machine tool technology*, mechanical drafting technology*, fire-protection technology*

Wayne Technical Institute,
Drawer H, Goldsboro 27530
Public. Clyde A. Erwin, Jr., pres.
Walter D. Brown, dean of faculty
Total enrolment: 3,500
Technician enrolment: 350
Accreditation: N. C. Dept. of Community Colleges
Admission: High-school graduation or CEEB
Soils technology, data processing technology*, architectural engineering technology, electronics technology, dental technology, nursing, forest products technology, airconditioning, heating, and refrigeration technology*, auto-diesel technology, automotive technology, drafting technology, fire-protection technology*, forestry technology

Western Piedmont Community College, P. O. Box 549,
Morganton 28655
Public. Herbert F. Stallworth, pres.
Harold P. Olsen, dir. tech.-voc. ed.
Total enrolment: 450
Technician enrolment: 200
Admission: High-school graduation or 18 or older with specific admission requirements for each program
Nursing, automotive technology, mechanical drafting technology

Wilkes Community College,
Drawer 120, Wilkesboro 28697
Public. Gerald M. Bolick, dean of voc.-tech. programs
Total enrolment: 909
Accreditation: State Ed. Dept.
Admission: High-school graduation
Agri-business technology**, agricultural engineering technology**, food-processing technology**, poultry and livestock**, data processing technology, nursing*, automotive technology*, drafting technology*, industrial technology, hotel management technology

Wilson County Technical Institute,
902 Herring Ave., Wilson 27893
Public. S. DelMastro, pres.
Rufus S. Swain, dir., tech.-voc. ed.
Total enrolment: 6,927
Technician enrolment: 266
Accreditation: State Ed. Dept.
Admission: High-school graduation, 1 yr. algebra
Agricultural engineering technology, architectural drafting technology*, electronics technology**, nursing**, airconditioning, heating, and refrigeration technology, auto-diesel technology, machine tool technology, mechanical and production engineering technology, mechanical drafting technology**, fire-protection technology*, food-processing technology*

NORTH DAKOTA

North Dakota State School of Science,
Wahpeton 58075
Public. Clair T. Blikre, pres.
James A. Horton, dir. of trade tech.
Total enrolment: 2,222
Technician enrolment: 1,487
Accreditation: State Ed. Dept.
Admission: High-school graduation or 17 yrs. of age or older
Data processing technology, architectural drafting technology, civil technology, electrical technology, electronic communications technology, electronic drafting technology, electronics technology, dental technology, graphic arts technology, lithographic technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, drafting technology, industrial drafting and design technology, machine tool technology, mechanical drafting technology, sheetmetal, welding, plumbing

OHIO

Acme Institute of Technology, Inc.
(an affiliate of Sams Technical Institute Inc.), 133 E. Third St., Dayton 45402
Private. Ronald L. Hendrickson, dir.
Total enrolment: 164
Technician enrolment: 164
Admission: High-school graduation with a good math background
Architectural engineering technology, tool and die design technology

Ashtabula Technical School,
W. 44th St., Ashtabula 44004
Public. William J. Ryan, dir.
Total enrolment: 60

Technician enrolment: 60
Admission: High-school graduation, aptitude as demonstrated by tests and/or experience and education
Electronics technology**, mechanical and production engineering technology**

ATES TECHNICAL SCHOOL,
314 Youngstown-Warren Rd., Niles 44446
Private. M. E. Riley, Jr., dir.
Total enrolment: 350
Technician enrolment: 350
Admission: High-school graduation and school testing
Computer technology*, electronics technology, drafting technology, mechanical technology

CANTON AREA TECHNICAL SCHOOL,
521 Tuscarawas St., W., Canton 44702
Public. F. A. Yenny, supv.
Total enrolment: 62
Technician enrolment: 62
Accreditation: State Ed. Dept.
Admission: High-school graduation, recommended by principal, satisfactory scores on eng. and physical science aptitude tests
Electrical technology,* metallurgical technology, industrial technology, mechanical technology

CINCINNATI COOPERATIVE SCHOOL OF TECHNOLOGY,
3520 Central Parkway, Cincinnati 45223
Public. John McGreal, dean of instruc.
Total enrolment: 100
Technician enrolment: 100
Accreditation: State Ed. Dept.
Admission: Upper 2/3 of graduating class, recommendations, entrance exam
Data processing technology, computer technology, graphic arts technology, mechanical design technology, sales marketing technology

CLARK COUNTY TECHNICAL INSTITUTE,
1901 Selma Rd., Springfield 45505
Public. Richard O. Brinkman, dir.
Harry H. Carter, dean
Total enrolment: 300
Technician enrolment: 300
Accreditation: Ohio Board of Regents
Admission: High-school graduation, aptitude tests, sufficient math maturity for given technology
Agri-business technology, agricultural engineering technology, data processing technology, civil technology, electrical technology, nursing, mechanical technology

CLEVELAND STATE UNIVERSITY,
Technical Institute, E. 24th and Euclid Ave., Cleveland 44115
Private. Nicholas R. Rimboi, dir., tech. instruc.
Technician enrolment: 1,000
Accreditation: NCA
Admission: High-school graduation or equivalent
Electrical technology, electronic communications technology, industrial electronic technology, airconditioning, heating, and refrigeration technology, design technology, drafting technology, industrial drafting and design technology, industrial technology, mechanical drafting technology

CLEVELAND TECHNICIAN SCHOOL,
4600 Detroit Ave., Cleveland
Public. H. B. Armstrong, coord.
Total enrolment: 150
Technician enrolment: 150
Admission: High-school graduation, good background in math and science
Electro-mechanical technology*, electronic communications technology*, electronic drafting technology*, electronics technology, industrial electronic technology, chemical technology, instrumentation technology*, metallurgical technology*, drafting technology*, fluid power (engineering) technology*, hydraulics technology*, industrial drafting and design technology*, industrial technology, mechanical and production engineering technology*, mechanical drafting technology*, mechanical technology

COLUMBUS TECHNICAL INSTITUTE,
557 Mt. Vernon Ave., Columbus 43215
Public. Clinton E. Tatsch, dir.
Total enrolment: 429
Technician enrolment: 429
Accreditation: Ohio Board of Regents
Admission: High-school graduation, appropriate course background and aptitude
Data processing technology, architectural drafting technology, electronics technology, chemical technology, metallurgical technology, aviation maintenance technology, mechanical and production engineering technology, food-processing technology, food service

CUYAHOGA COMMUNITY COLLEGE,
626 Huron Rd., Cleveland 44115
Public. Charles E. Chapman, pres.
Fred C. Sutton, dean of tech. ed.
Total enrolment: 10,200
Technician enrolment: 3,400
Admission: High-school graduation or 21 yrs. of age
Data processing technology, retail technology, sales technology, architectural drafting technology*, architectural engineering technology*, building construction technology, construction technology*, civil technology*, structural engineering and design technology*, surveying technology*, electrical technology, electromechanical technology*, electronic communications technology, electronic drafting technology*, electronics technology, industrial electronic technology*, health technology*, medical records technology*, medical technology*, nursing, dental hygiene, medical assisting, chemical technology*, engineering science technology*, instrumentation technology*, metallurgical technology, airconditioning, heating, and refrigeration technology*, drafting technology*, hydraulics technology*, industrial drafting and design technology*, mechanical and production engineering technology, mechanical technology*, fire-protection technology, food-processing technology, law enforcement technology, library technology

DAYTON TECHNICAL CENTER,
118 E. First St., Dayton 45402
Public. Paul C. Snyder, dir., voc.-tech. ed.
Accreditation: State Ed. Dept.
Admission: High-school graduation, upper ½ of class, aptitude test
Automotive technology**, graphic arts technology**, industrial technology**

ERIESIDE INSTITUTE,
4141 Erie St., Willoughby 44094
Private. Karman Duchon, dir.
William Hayne, assoc. dir.
Total enrolment: 340
Technician enrolment: 210
Admission: High-school graduation or equivalent
Architectural drafting technology, electrical technology**, electronics technology**, design technology, drafting technology, industrial technology, mechanical and production engineering technology**

FRANKLIN UNIVERSITY TECHNICAL INSTITUTE,
40 W. Long St., Columbus 43215
Private. Joseph F. Frasch, pres.
Sidney J. Kelly, dean
Total enrolment: 2,000
Technician enrolment: 450
Admission: High-school graduation
Architectural drafting technology, construction technology, electronic communications technology, electronics technology, drafting technology, mechanical drafting technology

GRISWOLD TECHNICAL INSTITUTE,
2031 Euclid Ave., Cleveland 44115
Private. Charles H. Feistkorn, pres.
Joseph Vincent McDonnell, dir.
Total enrolment: 800
Technician enrolment: 200

Accreditation: NATTS
Admission: High-school graduation
Computer technology, electronic communications technology, industrial electronic technology

HAMILTON TECHNICAL SCHOOL,
332 Dayton St., Hamilton 45012
Public. A. C. Woedl, dir.
Total enrolment: 55
Technician enrolment: 55
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, strong math and science background
Aviation electronics technology, airconditioning, heating, and refrigeration technology

KENT STATE UNIVERSITY, ASHTABULA ACADEMIC CENTER,
4325 Park Ave., Ashtabula 44004
Public. Paul A. Reichert, dir.
Total enrolment: 850
Technician enrolment: 100
Accreditation: NCA
Admission: High-school graduation and satisfactory ACT score
Nursing, office administration

KENT STATE UNIVERSITY, SALEM ACADEMIC CENTER,
250 Franklin Ave., P. O. Box 91, Salem 44460
Public. Thomas N. Cox, dir.
Total enrolment: 308
Technician enrolment: 120
Accreditation: NCA
Admission: High-school graduation and satisfactory ACT score
Civil engineering technology, electrical engineering technology, industrial engineering technology, mechanical engineering technology

LORAIN COUNTY COMMUNITY COLLEGE,
1005 N. Abbe Rd., Elyria 44035
Public. Max J. Lerner, pres.
C. E. Stiner, dean, tech. div.
Total enrolment: 2,752
Technician enrolment: 915
Admission: High-school graduation with good math background
Data processing technology**, civil technology**, electrical technology**, electronics technology**, nursing, chemical technology**, graphic arts technology**, industrial technology**, mechanical technology**, dental assisting, medical assisting, mid-management retailing**, general business management**

MANSFIELD SCHOOL OF TECHNOLOGY,
218 Marion Ave., Mansfield 44903
Public. G. N. Yoder, dir.
Accreditation: State Ed. Dept.
Admission: High-school graduation, 2 yrs. high-school math (algebra and geometry), aptitude tests, recommendation
Electrical technology, metallurgical technology, industrial technology**, mechanical technology, retail management

MARTINS FERRY HIGH SCHOOL,
800 Hanover St., Martins Ferry
Public. J. Yoder, prin.
Total enrolment: 1,000
Technician enrolment: 160
Accreditation: NCA
Admission: Entrance exams, at least 16 yrs. old
Electronics technology, drafting and tool design, machine tool technology

MIAMI UNIVERSITY, MIDDLETOWN CAMPUS,
4200 Manchester, Middletown 45042
Public. C. Eugene Bennett, dir.
David W. Young, ind. tech. prof.
Total enrolment: 2,500
Technician enrolment: 100
Accreditation: NCA
Admission: 16 high-school credits, at least 10 of 16 in college prep. courses, 2 units of algebra and 1 of physics or chem. recommended
Electrical technology, mechanical technology, materials technology

OHIO COLLEGE OF APPLIED SCIENCE,
1104 Walnut St., Cincinnati 45210
Private. W. W. Culp, pres.
Paul C. Hallett, dean of faculty
Total enrolment: 2,200
Technician enrolment: 540
Admission: High-school graduation or equivalent, 1 yr. algebra, 1 yr. plane geometry, 1 yr. either physics, chemistry, or adv. math.
Architectural technology, building construction technology, civil engineering technology†, computer engineering technology, electrical technology†, electronics technology†, chemical technology†, instrumentation technology, mechanical engineering technology†

OHIO TECHNICAL COLLEGE,
886 Sunbury Rd., Columbus 43219
Private. Samuel L. Oppenheimer, pres.
Total enrolment: 330
Technician enrolment: 330
Admission: 2 units math, 1 unit science, high-school graduation
Electronics technology†

PIKETON VOCATIONAL SCHOOL,
Piketon
Public. G. O'Dell, supv.
Total enrolment: 166
Technician enrolment: 37
Accreditation: State Ed. Dept.
Electronics technology

PORTSMOUTH HIGH SCHOOL,
Gallia and Waller Sts., Portsmouth 45662
Public. O. M. Gwinn, dir.
Total enrolment: 1,026
Technician enrolment: 19
Accreditation: State Ed. Dept.
Admission: Pass specified tests
Electronics technology

SINCLAIR COMMUNITY COLLEGE,
117 W. Monument, Dayton 45402
Public. C. C. Bussey, pres.
P. A. Kleff, chm., eng. tech. div.
Total enrolment: 2,231
Technician enrolment: 700
Admission: High-school graduation with 1½ units algebra and 1 unit plane geometry
Data processing technology, electronics technology, mechanical technology†

UNIVERSITY OF AKRON, COMMUNITY AND TECHNICAL COLLEGE, Akron 44304
Public. Norman P. Auburn, pres.
W. M. Petry, tech. ed. chm.
Total enrolment: 11,856
Technician enrolment: 494
Accreditation: NCA
Admission: High-school graduation, ACT
Commercial design technology, building construction technology, surveying technology, electronics technology, design technology, industrial technology

UNIVERSITY OF DAYTON,
The Technical Institute, 300 College Park Ave., Dayton 45409
Private. James L. McGraw, dir.
Total enrolment: 10,000
Technician enrolment: 500
Accreditation: NCA
Admission: High-school graduation with 3 yrs. of English, 1 yr. algebra, SAT
Electronics technology†, chemical technology, industrial technology†, mechanical technology†

UNIVERSITY OF TOLEDO, COMMUNITY AND TECHNICAL COLLEGE,
2801 W. Bancroft St., Toledo 43606
Public. Newton C. Rochte, dean
Total enrolment: 1,600
Technician enrolment: 900
Accreditation: NCA
Admission: High-school graduation
Data processing technology, building construction technology, electronics technology, medical technology, X-ray technology, chemical technology, instrumentation technology, industrial drafting and design technology, mechanical and production engineering technology

OKLAHOMA

ALTUS JUNIOR COLLEGE,
220 N. Park Lane, Altus 73521
Public. Cecil R. Chesser, dean
Earl Newberry, dir.
Total enrolment: 448
Technician enrolment: 30
Accreditation: State Ed. Dept.
Admission: High-school graduation, ACT
Data processing technology

CAMERON STATE COLLEGE,
Lawton 73501
Public. Richard R. Burch, pres.
Roy Byrd, dept. hd.
Total enrolment: 2,430
Accreditation: NCA
Admission: High-school graduation; nonresidents min. ACT score of 16 composite
Data processing technology, architectural drafting technology, electronics technology, nursing, engineering science technology, automotive technology, drafting technology

CENTRAL PILGRIM COLLEGE,
Bartlesville 74003
Private. Norman N. Bonner, pres.
Larry Schofield, tech. ed. chm.
Accreditation: State Regents for Higher Education
Nursing

CONNORS STATE AGRICULTURE COLLEGE,
Warner 74469
Public. Melvin Self, pres.
O. Bradley, tech. ed. chm.
Total enrolment: 570
Technician enrolment: 31
Accreditation: NCA
Admission: High-school graduation, ACT
Agri-business technology, electrical technology, design technology, drafting technology

DUNCAN AREA VOCATIONAL-TECHNICAL CENTER, Duncan
Public. Hoyt N. Sandlin, dir.
Virgil Smith, tech. ed. chm.
Total enrolment: 450
Technician enrolment: 10
Accreditation: State Ed. Dept.
Admission: High-school graduation
Data processing technology

EASTERN OKLAHOMA A & M COLLEGE,
Wilburton 74578
Public. J. N. Baker, pres.
Gerald F. Williams, dean of instruc.
Total enrolment: 1,100
Technician enrolment: 315
Accreditation: NCA
Admission: High-school graduation or equivalent
Agri-business technology, data processing technology, architectural drafting technology†, building construction technology†, civil technology†, highway technology†, surveying technology†, computer technology, electrical technology†, electronic drafting technology†, electronics technology†, chemical technology†, automotive technology†, design technology†, drafting technology†, industrial drafting and design technology†

MURRAY STATE COLLEGE,
Tishomingo 73460
Public. Freeman McKee, pres.
Harold Winburn, tech. ed. chm.
Total enrolment: 759
Accreditation: NCA
Admission: High-school graduation
Architectural drafting technology, structural engineering and design technology, design technology, drafting technology, industrial drafting and design technology

NORTHERN OKLAHOMA COLLEGE,
Tonkawa 74653
Public. Edwin E. Vineyard, pres.
Total enrolment: 1,005
Technician enrolment: 109
Accreditation: NCA
Admission: High-school graduation; nonresidents upper 50% of graduating class
Data processing technology, electronics technology, graphic arts technology, automotive technology, industrial drafting and design technology

OKLAHOMA CITY PUBLIC SCHOOLS,
900 N. Klein, Oklahoma City 73106
Public. Bill Lillard, supt.
Total enrolment: 75,457
Technician enrolment: 2,658
Accreditation: NCA, State Ed. Dept.
Data processing technology, civil technology, electronics technology, chemical technology, graphic arts technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, drafting technology, food-processing technology

OKLAHOMA COLLEGE OF LIBERAL ARTS,
Chickasha 73018
Public. H. B. Smith, Jr., pres.
Homer Arms, tech. ed. chm.
Total enrolment: 997
Technician enrolment: 14
Accreditation: NCA
Admission: High-school graduation
Medical laboratory technology, chemical technology

OKLAHOMA STATE UNIVERSITY TECHNICAL INSTITUTE,
1900 Northwest Tenth St., Oklahoma City 73106
Public. Philip P. Chandler, dir.
Dale C. Delano, asst. dir.
Total enrolment: 650
Technician enrolment: 650
Accreditation: NCA
Admission: High-school graduation, upper 2/3 of class
Data processing technology, architectural drafting technology, architectural engineering technology, civil technology, highway technology, surveying technology*, computer technology, electronics technology, graphic arts technology, instrumentation technology, industrial drafting and design technology, technical writing technology

OKLAHOMA STATE UNIVERSITY TECHNICAL INSTITUTE,
Stillwater 74074
Public. Donald W. Brown, dir.
Total enrolment: 16,000
Technician enrolment: 410
Accreditation: NCA
Admission: High-school graduation, C average or above, upper 2/3 of high-school graduating class
Building construction technology†, electronics technology†, radiation technology, metals technology, aeronautical technology, drafting and design technology†, mechanical technology, fire-protection technology†, petroleum technology

POTEAU COMMUNITY COLLEGE,
Poteau
Public. G. E. Evans, pres.
Total enrolment: 100
Technician enrolment: 15
Accreditation: Oklahoma Regents for Higher Education
Admission: High-school graduation
Electronics technology, chemical technology

SAYRE JUNIOR COLLEGE,
Sayre 73662
Public. Harry Patterson, pres.
Larry Farmer, hd. elec. dept.
Total enrolment: 245
Technician enrolment: 90
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Electrical technology, industrial electronic technology

SOUTHERN OKLAHOMA AREA VOCATIONAL-TECHNICAL CENTER,
Ardmore 73401
Public. Jack Stone, dir.
Total enrolment: 600
Technician enrolment: 40
Accreditation: State Ed. Dept.
Admission: High-school Junior or over
Electronics technology, industrial drafting and design technology

SOUTHWESTERN STATE COLLEGE,
Weatherford 73096
Public. Louis Morris, dean of instruc.
Total enrolment: 4,500
Technician enrolment: 1,200
Accreditation: NCA
Admission: High-school graduation, upper ¾ on ACT or comparable test
Architectural drafting technology, surveying technology, computer technology, dental technology, health technology, medical laboratory technology, medical technology, nursing, optical technology

SPARTAN SCHOOL OF AERONAUTICS,
P. O. Box 51239, Dawson Station, Tulsa 74151
Private. J. O. Payne, dir.
Total enrolment: 950
Technician enrolment: 950
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Electronics technology, aviation maintenance technology

TULSA TECHNICAL COLLEGE,
623 S. Detroit Ave., Tulsa 74120
Private. Buford B. Wiley, dir.
A. L. Hoff, dean of ed.
Total enrolment: 260
Technician enrolment: 140
Accreditation: State Ed. Dept.
Admission: High-school graduation, C or better average
Data processing technology, architectural drafting technology, structural engineering and design technology, computer technology, electro-mechanical drafting technology, electronic communications technology, electronic drafting technology, electronics technology, industrial electronic technology, drafting technology, industrial drafting and design technology, mechanical drafting technology

OREGON

BLUE MOUNTAIN COMMUNITY COLLEGE,
P. O. Box 100, Pendleton 97801
Public. Robert Hawk, dean
Total enrolment: 700
Technician enrolment: 340
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Agri-business technology, data processing technology, civil technology, electronic communications technology, electronics technology, nursing, chemical technology, auto-diesel technology, automotive technology, drafting technology

CENTRAL OREGON COMMUNITY COLLEGE,
Bend 97701
Public. Don P. Pence, pres.
George Zahl, asst. dean of tech. ed.
Total enrolment: 678
Technician enrolment: 205
Accreditation: NWA
Admission: Placement exams
Agricultural engineering technology*, data processing technology, surveying technology, electrical technology*, electronics technology, nursing, forest products technology, automotive technology, drafting technology, industrial technology, machine tool technology, fire-protection technology*, food-processing technology*

CLACKAMAS COMMUNITY COLLEGE,
15010 S.E. McLoughlin Blvd., Milwaukie 97222
Public. Roy G. Mikalson, pres.
Gilbert Bloomquist, assoc. dean
Admission: High-school graduation or 18 yrs. of age
Agri-business technology*, electronics technology, automotive technology, drafting technology, machine tool technology, welding technology

CLATSOP COMMUNITY COLLEGE,
Astoria 97103
Public. Stewart F. McCollom, pres.
Paul Tolonen, chm., voc.-tech. div.
Total enrolment: 778
Technician enrolment: 351
Accreditation: NWA, State Ed. Dept.
Admission: High-school graduation or equivalent
Data processing technology*, civil technology**, surveying technology, electronic drafting technology, electronics technology**, industrial electronic technology, forest products technology**, airconditioning, heating, and refrigeration technology*, auto-diesel technology, automotive technology**, drafting technology**, mechanical drafting technology**, mechanical technology**, fire-protection technology*, marine technology**, police science**, livestock technology

LANE COMMUNITY COLLEGE,
200 N. Monroe St., Eugene 97401
Public. Dale Parnell, pres.
William Hein, dean of instruc.
Total enrolment: 4,811
Technician enrolment: 761
Accreditation: NWA, State Ed. Dept.
Admission: High-school graduation or 18 yrs. of age
Agricultural engineering technology, data processing technology, publications technology*, architectural drafting technology, building construction technology, civil technology, structural engineering and design technology, surveying technology, commercial broadcast technology, electronics technology, dental technology, health technology, nursing, forest products technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, combustion power technology, aviation maintenance technology, aviation technology, drafting technology, fluid power (engineering) technology, industrial drafting and design technology, industrial technology, machine tool technology, mechanical drafting technology, mechanical technology, fire-protection technology, food-processing technology, law enforcement

MT. HOOD COMMUNITY COLLEGE,
655 N. Main St., Gresham 97030
Public. Earl Klapstein, pres.
Arnie Heuchert, dir. of voc.-tech. ed.
Total enrolment: 850
Technician enrolment: 122
Accreditation: State Ed. Dept.
Electronics technology, automotive technology**, nursing, horticulture

MULTNOMAH COLLEGE,
1022 S. W. Salmon St., Portland 97205
Private. John S. Griffith, pres.
Total enrolment: 2,450
Technician enrolment: 278
Accreditation: NWA
Admission: High-school graduation or equivalent, 1 yr. algebra, testing
Electronics engineering technology, electronics technology, automotive technology, gas and diesel mechanical technology, welding technology

OREGON POLYTECHNIC INSTITUTE,
1208 S. W. Fourth Ave., Portland 97204
Private. A. R. Gale, dir.
Charles R. Hansard, training consultant
Total enrolment: 160
Technician enrolment: 100
Admission: High-school graduation or equivalent
Architectural planning and creative design, tool and die design, machine design, structural design, industrial drafting, architectural engineering, tool engineering, mechanical engineering, civil engineering, refrigeration and airconditioning, surveying, mapping, and calculating, special drafting

OREGON TECHNICAL INSTITUTE,
Oretech Branch P. O., Klamath Falls 97601
Public. W. D. Purvine, pres.
Paul T. Meier, dean of instruc.
Total enrolment: 1,000
Technician enrolment: 1,000
Accreditation: NWA

Highway engineering technology†, surveying engineering technology†, structural engineering technology†, electronics engineering technology†, diesel technology, small-arms processes technology, office machines technology, medical radiologic technology, electro-mechanical engineering technology†, engineering drafting technology†, mechanical engineering technology†, automotive mechanics technology, automotive tune-up technology, machining processes technology, welding processes technology, medical laboratory technology, dental assistant technology

Portland Community College,
049 S. W. Porter St., Portland 97201
Public. Amo De Bernardis, pres.
Robert Zertanna, dean
Total enrolment: 8,657
Technician enrolment: 3,515
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Data processing technology, architectural drafting technology, civil technology, highway technology, structural engineering and design technology, electronics technology, industrial electronic technology, dental technology, nursing, auto-diesel technology, automotive technology, drafting technology, mechanical drafting technology, fire-protection technology, food-processing technology, law enforcement, machinist, fire science

Salem Technical Community College,
4389 Satter Dr., N.E., Salem 97303
Public. Paul F. Wilmeth, dir.
Total enrolment: 750
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Data processing technology**, architectural drafting technology**, civil technology**, highway technology**, surveying technology**, electronic communications technology**, electronics technology**, nursing**, forest products technology**, drafting technology**, machine tool technology**, mechanical drafting technology**, mechanical technology**, fire-protection technology**

Southwestern Oregon Community College,
Coos Bay 97420
Public. Jack E. Brookins, pres.
Stanley Brown, dean of instruc.
Total enrolment: 1,600
Technician enrolment: 500
Accreditation: NWA
Admission: High-school graduation or equivalent
Data processing technology, civil technology, structural engineering and design technology, electrical technology, electronics technology, nursing, automotive technology, drafting technology, industrial technology, fire-protection technology*, wood industries technology, law enforcement

Treasure Valley Community College,
650 College Blvd., Ontario 97914
Public. E. F. Voris, pres.
Carl G. Devin, dean, voc.-tech. div.
Total enrolment: 1,100
Technician enrolment: 520
Accreditation: NWA, State Ed. Dept.
Admission: High-school graduation or equivalent
Agri-business technology*, agricultural chemicals, livestock and range**, landscaping technology, data processing technology*, building construction technology*, surveying technology, electrical technology*, medical records technology*, nursing, graphic arts technology*, auto-diesel technology, aviation technology, drafting technology, hydraulics technology*, mechanical technology, real estate technology**, agricultural equipment technology**, law enforcement technology, library technical, small business technology*

Umpqua Community College,
P. O. Box 967, Roseburg 97470
Public. Harry Jacoby, pres.
Robert M. Moldenhauer, dean of voc.-tech. div.
Total enrolment: 925
Technician enrolment: 343
Accreditation: State Ed. Dept.
Admission: Open-door policy
Forestry aide, nursing, automotive technology, drafting technology, fire-protection technology, law enforcement, real estate

PENNSYLVANIA

A.T.E.S. Technical School,
2823 W. 26th St., Erie 16506
Private. James A. Atkinson, dir.
Total enrolment: 200
Technician enrolment: 200
Admission: High-school graduation, entrance exams, algebra I
Computer technology*, electro-mechanical drafting technology*, electronic communications technology*, electronic drafting technology*, electronics technology*, industrial electronic technology*, drafting technology*, mechanical drafting technology*, electronic engineering technology

Aliquippa Standard Evening High School, Harding Ave., Aliquippa
Public. William J. Reinish, prin.
Total enrolment: 650
Technician enrolment: 100
Accreditation: State Ed. Dept.
Admission: Math and science
Electrical technology*, electronics technology*, industrial electronic technology*, metallurgical technology*

Altoona Area Vocational-Technical School,
1415—7th Ave., Altoona
Public. William Gibbons, dir.
Total enrolment: 1,060
Technician enrolment: 158
Accreditation: State Ed. Dept.
Data processing technology**, electrical technology**, electro-mechanical drafting technology**, electronic communications technology**, electronics technology**, industrial electronic technology**, nursing**, graphic arts technology**, lithographic technology**, textile engineering technology**, automotive technology**, internal combustion (engineering) technology**, design technology**, drafting technology**, industrial drafting and design technology**, machine tool technology**, mechanical and production engineering technology**, welding technology**, masonry**, plumbing, auto body

Bethlehem Area Vocational-Technical School,
240 E. Elizabeth Ave., Bethlehem 18018
Public. Joseph J. Risbon, dir.
Total enrolment: 800
Technician enrolment: 160
Accreditation: State Ed. Dept.
Admission: Completion of 9th grade
Data processing technology**, civil technology, highway technology, surveying technology*, electrical technology, health technology, nursing, metallurgical technology**, airconditioning, heating, and refrigeration technology*, mechanical and production engineering technology

Bok Area Vocational Technical School,
8th and Mifflin Sts., Philadelphia 19148
Public. Edward M. Fee, prin.
Total enrolment: 5,800
Technician enrolment: 1,400
Admission: High-school graduation plus tests
Data processing technology**, building construction technology, structural engineering and design technology*, photogrammetry and cartography**, electrical technology**, electronics technology**, industrial electronic technology**, optical technology**, airconditioning, heating, and refrigeration tech-

nology*, automotive technology**, aviation maintenance technology*, aviation technology*, drafting technology**, industrial drafting and design technology**, machine tool technology**, mechanical drafting technology**, technical writing, welding technology

Bucks County Technical School,
Wistar Rd., Fairless Hills 19030
Public. George M. Schaffer, prin.
Total enrolment: 1,254
Accreditation: State Ed. Dept.
Admission: Completion of math and algebra requirements, above average intelligence
Data processing technology, architectural drafting technology, civil technology, electrical technology, electronics technology, chemical technology, instrumentation technology, metallurgical technology, drafting technology

Central Westmoreland Area Vocational-Technical School,
201 Locust St., Youngwood 15697
Public. Paul J. Hatch, dir.-prin.
Total enrolment: 615
Technician enrolment: 165
Accreditation: State Ed. Dept.
Admission: High average or above
Data processing technology, civil construction technology, electronics technology, chemical technology, mechanical drafting technology

Chester School District,
18th and Melrose Ave., Chester
Public. John J. Vaul, supt.
Charles F. Zuin, adm. asst.
Total enrolment: 700
Technician enrolment: 110
Accreditation: State Ed. Dept.
Admission: Capable of profiting from instruction
Electrical technology*, electronics technology*, industrial electronics technology*, nursing, instrumentation technology*, design technology*

Clairton Evening School,
Fifth St., Clairton
Public. J. C. Schreck, dir.
Total enrolment: 700
Technician enrolment: 40
Electronics technology*, instrumentation*

Community College of Allegheny County,
808 Ridge Ave., Pittsburgh 15212
Public. Herbert S. Sussman, vice pres.
James L. Evanko, dean of faculty
Total enrolment: 2,000
Admission: High-school graduation or equivalent
Data processing technology, highway technology, structural engineering and design technology, electronics technology, medical laboratory technology, medical records technology, nursing, mechanical technology, medical assisting technology

Community College of Beaver County,
609 Third Ave., Freedom 15042
Public. H. B. Monroe, pres.
H. Ward Powell, dean
Total enrolment: 500
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent; demonstrated ability to do acceptable work in program of study
Data processing technology**, civil technology**, nursing, metallurgical technology**, auto-diesel technology**, automotive technology**, design technology**, drafting technology**, industrial drafting and design technology**

Community College of Philadelphia,
34 S. 11th St., Philadelphia 19107
Public. Allen T. Bonnell, pres.
James A. Richards, Jr., dean of instruc.
Total enrolment: 3,100
Technician enrolment: 300
Admission: High-school graduation, ACT, high-school recommendation
Data processing technology, aviation electronics technology, computer technology, electronics technology, nursing

Connelley Vocational-Technical High School,
1501 Bedford Ave., Pittsburgh 15219
Public. Michael A. Wolak, Jr., prin.
Total enrolment: 550
Accreditation: MSA
Admission: High-school graduation
Architectural drafting technology, computer technology**, electronics technology**, graphic arts technology, airconditioning, heating, and refrigeration technology**, auto-diesel technology, automotive technology, design technology, drafting technology, industrial drafting and design technology, machine tool technology**, automotive machinist technology, research development laboratory technology, food store management technology, carburetion and ignition technology

Dobbins Area Vocational-Technical School,
Lehigh Ave. at 22nd St., Philadelphia 19132
Public. G. William Donovan, prin.
Total enrolment: 2,400
Technician enrolment: 1,200
Accreditation: State Ed. Dept.
Admission: Entrance exam
Data processing technology, architectural drafting technology, building construction technology, computer technology, electrical technology, electronics technology, dental technology, medical laboratory technology, nursing, radiation technology, X-ray technology, graphic arts technology, instrumentation technology, metallurgical technology, airconditioning, heating, and refrigeration technology, automotive technology, design technology, drafting technology, machine tool technology, mechanical and production engineering technology, food merchandising, industrial chemistry, printing management, computer data processing

Eastern Northampton County Vocational-Technical School,
25th and Wm. Penn Highway, Easton 18042
Public. Robert A. Nagle, dir.
Total enrolment: 1,000
Technician enrolment: 320
Admission: High-school graduation
Data processing technology, architectural drafting technology, building construction technology, electrical technology**, electronic communications technology**, industrial electronic technology**, graphic arts technology**, automotive technology**, design technology**, drafting technology**, machine tool technology**

Eastern Westmoreland Area Vocational-Technical School
205 Harrison Ave., Latrobe 15650
Public. Carl T. Rorabaugh, dir.
Total enrolment: 340
Technician enrolment: 75
Admission: Above average grades
Electronics technology**, metallurgical technology**, design drafting technology**

Educational Institute of Pittsburgh,
212 Ninth St., Pittsburgh 15222
Private. Peter J. Bercik, pres.
Joseph B. Dym, dir.
Total enrolment: 500
Technician enrolment: 420
Admission: High-school graduation
Structural engineering and design technology, computer technology, electronic communications technology, industrial electronic technology, metallurgical technology, airconditioning, heating, and refrigeration technology, design technology, drafting technology, hydraulics technology, industrial drafting and design technology, industrial technology, mechanical drafting technology, plastics technology

ELECTRONICS TRAINING CENTER,
4575 Tilghman St., Allentown 18104
Private. M. Michael Freedland, pres.
Robert W. Riedy, dir.
Total enrolment: 350
Technician enrolment: 250
Accreditation: NATTS, State Ed. Dept.
Admission: High-school graduation
Computer technology**, commerical broadcast technology**, electrical technology**, electro-mechanical technology**, electronic communications technology**, electronics technology**, industrial electronic technology**, microminiaturization technology**

ELECTRONICS TRAINING CENTER,
D St. south of Erie Ave., Philadelphia 19134
Private. M. Michael Freedland, pres.
John T. Roney, dir.
Total enrolment: 400
Technician enrolment: 250
Accreditation: NATTS, State Ed. Dept.
Admission: High-school graduation or equivalent
Computer technology**, commercial broadcast technology**, electrical technology**, electronic communications technology**, electronics technology**, industrial electronic technology**, microminiaturization technology**

FORBES TRAIL AREA TECHNICAL SCHOOL,
Monroeville
Public. F. J. Brown, dir., tech. ed.
Total enrolment: 450
Admission: Average school grades, above average mental ability, and recommendation from high school
Civil and construction technology, electronic data processing technology, electronics technology, mechanical technology, chemical technology

FRANKLIN SCHOOL OF SCIENCE AND ARTS,
251 S. 22nd St., Philadelphia 19103
Private. Israel Zamost, pres.
Total enrolment: 425
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: High-school graduation
Medical laboratory technology, medical technology, X-ray technology

GREENSBURG INSTITUTE OF TECHNOLOGY,
302 W. Otterman St., Greensburg 15601
Private. Donna M. Chalfant, pres.
J. W. Bewsher, off. adm.
Total enrolment: 200
Technician enrolment: 200
Admission: High-school graduation, math and science
Architectural drafting technology, building construction technology, structural engineering and design technology, electrical technology, electronics technology, design technology, drafting technology, mechanical drafting technology

HARCUM JUNIOR COLLEGE,
Bryn Mawr 19010
Private. Michael A. Duzy, pres.
Armand Courchaine, tech. ed. chm.
Total enrolment: 750
Technician enrolment: 28
Accreditation: State Ed. Dept.
Medical laboratory technology, medical technology

HARRISBURG AREA COMMUNITY COLLEGE,
3300 Cameron St. Rd., Harrisburg 17110
Public. Clyde E. Blocker, pres.
Total enrolment: 1,935
Technician enrolment: 142
Accreditation: MSA
Admission: High-school graduation, ACT, upper ½ of graduating class, recommendation
Data processing technology, civil technology, surveying technology, electrical technology, electronic communications technology, industrial electronic technology, dental technology, nursing, engineering science technology, drafting technology, industrial drafting and design technology, food-processing technology, general technology

HAZLETON HIGH SCHOOL,
Vocational-Technical Dept., 9th and Wyoming Sts., Hazleton 18201
Public. John A. Tima, dir.
Angelo Palumbo, tech. ed. chm.
Total enrolment: 270
Technician enrolment: 40
Accreditation: State Ed. Dept.
Admission: Completion of 9th grade
Electronics technology**

INDUSTRIAL MANAGEMENT INSTITUTE OF READING, INC., Y.M.C.A. Bldg., Reed and Washington Sts., Reading 19601
Private. William P. MacDonald, pres.-dir.
Total enrolment: 300
Accreditation: NATTS
Admission: High-school graduation, high-school recommendation
Architectural drafting technology, architectural engineering technology, electronic drafting technology, design technology, drafting technology, industrial drafting and design technology, industrial illustration technology, mechanical drafting technology, industrial engineering technology, tool design

INSTITUTE OF COMPUTER MANAGEMENT,
542 Penn Ave., Pittsburgh 15222
Private. W. R. Zanardelli, dir.
Total enrolment: 350
Technician enrolment: 350
Accreditation: State Ed. Dept.
Admission: High-school graduation, SAT
Data processing technology**, computer technology**

JOHNSON SCHOOL OF TECHNOLOGY,
3427 N. Main Ave., Scranton 18508
Private. John R. O'Hara, dir.
Total enrolment: 172
Admission: High-school graduation, entrance exam
Building construction technology, industrial drafting and design technology, machine trades technology

KEYSTONE JUNIOR COLLEGE,
La Plume 18440
Private. Harry K. Miller, Jr., pres.
John A. Hertz, dean
Total enrolment: 705
Technician enrolment: 12
Accreditation: MSA
Admission: High-school graduation, CEEB
Medical laboratory technology

LEHIGH COUNTY COMMUNITY COLLEGE,
501 Hamilton St., Allentown 18101
Public. John G. Berrier, pres.
George W. Elison, dean of tech.
Total enrolment: 450
Technician enrolment: 215
Data processing technology**, electronics technology**, dental technology, medical technology, nursing, chemical technology**

LENAPE VOCATIONAL-TECHNICAL SCHOOL,
2215 Chaplin Ave., Ford City 16226
Public. John J. Smith, coord.
Total enrolment: 350
Data processing technology, electronics technology, chemical technology, drafting technology, mechanical drafting technology

LIBERTY HIGH SCHOOL,
240 E. Elizabeth Ave., Bethlehem
Public. Joseph J. Risbon, dir.
Total enrolment: 302
Technician enrolment: 110
Civil technology, electrical technology, metallurgical technology, mechanical and production engineering technology

MASTBAUM AREA VOCATIONAL-TECHNICAL SCHOOL,
Frankford Ave. and Clearfield St., Philadelphia 19134
Public. William W. Renshaw, prin.
Stanley B. Cohen, tech. ed. chm.
Total enrolment: 1,600
Technician enrolment: 100
Accreditation: MSA
Admission: High-school graduation

Data processing technology**, architectural drafting technology**, building construction technology**, construction technology**, electrical technology**, electro-mechanical technology**, industrial electronic technology**, dental technology**, automotive technology**, drafting technology**, fluid power (engineering) technology**, hydraulics technology**, industrial drafting and design technology**, machine tool technology**, mechanical drafting technology**

McCarrie School of Mechanical Dentistry, Inc.,
37 S. 20th St., Philadelphia 19103
Private. Edward T. Cunningham, pres.
Total enrolment: 150
Technician enrolment: 150
Dental technology

McKeesport Vocational High School,
O'Neil Blvd., McKeesport 15132
Public. Munroe A. MacDonald, dir., voc.-tech. and ad. ed.
Total enrolment: 600
Technician enrolment: 125
Accreditation: MSA
Electronic communications technology, metallurgical technology, design and drafting technology

New Castle School of Trades, Inc.,
R. D. 1, Pulaski 18641
Private. Joseph L. Clavelli, adm.
Total enrolment: 200
Technician enrolment: 100
Admission: Ability to benefit from instruction, aptitude tests
Electrical technology, automotive technology

North Montco Area Vocational-Technical School,
Sumneytown Pike, Lansdale 19446
Public. Edward V. Tapp, prin.
Total enrolment: 580
Technician enrolment: 105
Admission: Completion of 9th grade including algebra
Building construction technology, electronics technology, chemical technology, design and drafting technology

Northampton County Area Community College,
Hecktown and Green Pond Rds.,
Bethlehem 18017
Public. Richard C. Richardson, Jr., pres.
Donald L. Hagen, assoc. dean of instruc.
Total enrolment: 350
Technician enrolment: 100
Accreditation: State Ed. Dept.
Admission: High-school graduation
Commercial design technology**, data processing technology**, computer technology*, electrical technology**, electronics technology**, engineering science technology, law enforcement**, library science

Northern Chester County Technical School, P. O. Box 287,
Phoenixville 19460
Public. Donald J. Langley, dir.
Total enrolment: 425
Technician enrolment: 60
Admission: Science and math aptitude, above average grades, testing, recommendation from guidance dept.
Electrical technology, electronics technology, design technology

Northumberland County Area Vocational-Technical School,
7th and Arch Sts., Shamokin 17872
Public. Walter H. Miller, dir. of voc. ed.
Total enrolment: 449
Technician enrolment: 134
Accreditation: State Ed. Dept.
Admission: C average or better
Electronics technology†, airconditioning, heating, and refrigeration technology*, mechanical drafting technology†

Penn Technical Institute,
5440 Penn Ave., Pittsburgh 15206
Private. Louis A. Dimasi, dir.
Total enrolment: 650
Technician enrolment: 650
Accreditation: NATTS
Admission: High-school graduation, 1 yr. of algebra
Electronics technology

Pennsylvania Institute of Technology,
414 Sansom St., Upper Darby 19082
Private. John L. Biehl, dir.
William F. Kerns, tech. ed. chm.
Total enrolment: 315
Technician enrolment: 315
Accreditation: State Ed. Dept.
Admission: High-school graduation, exam, recommendation
Architectural drafting technology, architectural engineering technology, structural engineering and design technology, electro-mechanical drafting technology, electro-mechanical technology, electronic drafting technology, electronics technology, industrial electronic technology, engineering science technology, graphic arts technology, aeronautical and astronautical (engineering) technology, design technology, drafting technology, industrial drafting and design technology, machine tool technology, mechanical and production engineering technology

Pennsylvania State University, Allentown Campus,
725 Ridge Ave., Allentown 18102
Public. Willard R. Grubbs, dir.
Total enrolment: 1,000
Technician enrolment: 150
Accreditation: MSA
Admission: High-school graduation, 2 yrs. algebra or 1 yr. algebra and 1 yr. geometry
Building construction technology*, construction technology*, electrical-electronics technology*†, instrumentation technology*, design-drafting technology*†, industrial technology*, mechanical and production engineering technology*, mechanical drafting technology*

Pennsylvania State University, Altoona Campus,
Ivyside Park, Altoona 16601
Public. R. E. Eiche, dir.
Total enrolment: 1,084
Technician enrolment: 276
Accreditation: MSA
Admission: High-school graduation, 2 yrs. math, satisfactory SAT scores
Electronics technology†, agri-business technology, electrical technology†, design technology†, drafting technology†, mechanical drafting technology†

Pennsylvania State University, Beaver Campus,
Brodhead Rd., Monaca 15061
Public. Joseph P. Giusti, dir.
Total enrolment: 414
Technician enrolment: 108
Accreditation: MSA, State Ed. Dept.
Admission: High-school graduation and demonstrated ability
Electronics technology†, design technology†, drafting technology†, materials technology†

Pennsylvania State University, Behrend Campus,
Station Rd., Erie 16510
Public. Irvin H. Kochel, dir.
Total enrolment: 541
Technician enrolment: 179
Accreditation: MSA
Admission: High-school graduation, CEEB, 2 yrs. math
Electrical and electronics technology†, drafting and design technology†

Pennsylvania State University, Berks Campus,
814 Hill Ave., Wyomissing 19610
Public. Harold W. Perkins, dir.
Ronald Bornmann, dist. adm.
Total enrolment: 305
Accreditation: MSA
Admission: High-school graduation, 2

units algebra and/or trigonometry or plane geometry, SAT
Agri-business technology, electrical and electronics technology†, chemical technology, drafting and design technology†, manufacturing technology

Pennsylvania State University,
DuBois Campus,
College Pl., DuBois 15801
Public. D. S. Hiller, dir.
Total enrolment: 374
Technician enrolment: 113
Accreditation: MSA
Admission: High-school graduation, SAT scores from CEEB, 2 units algebra and/or plane geometry, 3 units of English
Electrical and electronics technology†, drafting and design technology†

Pennsylvania State University,
Hazleton Campus,
Hazleton 18201
Public. Frank C. Kostos, dir.
Total enrolment: 485
Technician enrolment: 176
Accreditation: MSA
Admission: High-school graduation, SAT scores from CEEB, 2 units of algebra and/or plane geometry, 3 units English
Electrical and electronics technology†, chemical technology†, drafting and design technology†

Pennsylvania State University,
McKeesport Campus,
University Dr., McKeesport 15132
Public. Walter A. Kearney, dir.
Total enrolment: 600
Technician enrolment: 225
Accreditation: MSA
Admission: High-school graduation, CEEB
Electrical and electronics technology†, chemical technology, drafting and design technology†

Pennsylvania State University,
Mont Alto Campus,
Mont Alto 17237
Public. Henry H. Chisman, dir.
Total enrolment: 520
Technician enrolment: 196
Admission: High-school graduation, 3 units in English, 2 units in math, SAT
Forest technology, structural engineering and design technology, surveying technology, electronics technology*, design technology*, drafting technology*, building construction*, production management*, inspection and quality control*, machine design*

Pennsylvania State University,
New Kensington Campus,
3550 Seventh St. Rd., New Kensington 15068
Public. Eugene Heide, dir.
Total enrolment: 663
Technician enrolment: 470
Accreditation: MSA
Admission: High-school graduation, CEEB
Electrical technology, electronics technology, design technology, drafting technology

Pennsylvania State University,
Ogontz Campus,
1600 Woodland Rd., Abington 19001
Public. Charles J. Smith, dir.
Sanford F. Nicol, tech. ed. chm.
Total enrolment: 2,143
Technician enrolment: 595
Admission: High-school graduation with 15 units (3 English, 2 math—1 unit algebra and 1 unit algebra or geometry), SAT of CEEB
Electrical and electronics technology*†, drafting and design technology*†, manufacturing technology†, production management*

Pennsylvania State University,
Scranton Campus,
1625 Wyoming Ave., Scranton 18509
Public. Robert E. Dawson, dir.
Total enrolment: 319
Technician enrolment: 280
Accreditation: MSA
Admission: High-school graduation, SAT, 2 yrs. math including 1 yr. algebra
Architectural drafting technology*, building construction technology*, construction technology*, electrical and electronics technology**†, drafting and design technology**†, industrial drafting and design technology*, industrial technology*, machine tool technology*, mechanical and production engineering technology*, mechanical technology*

Pennsylvania State University,
Shenango Valley Campus,
777 S. Buhl Farm Dr., Sharon 16146
Public. Dale W. Houk, dir.
Harold R. Sargent, asst. dir.
Total enrolment: 250
Technician enrolment: 75
Admission: CEEB, 3 units English, 2 units algebra
Data processing technology, electrical and electronics technology†, drafting and design technology†

Pennsylvania State University,
Wilkes-Barre Campus,
Wilkes-Barre 18705
Public. G. W. Bierly, dir.
Total enrolment: 625
Technician enrolment: 454
Accreditation: MSA
Admission: SAT, 2 yrs. math including algebra
Data processing technology*, architectural drafting technology*†, building construction technology*† surveying technology†, electrical and electronics technology*†, drafting and design technology†, industrial drafting and design technology*†

Pennsylvania State University,
York Campus,
1031 Edgecomb Ave., York 17403
Public. E. M. Elias, dir.
Total enrolment: 150
Accreditation: MSA
Admission: Upper 3/5 of graduating class, 2 yrs. of math, including algebra
Electrical and electronics technology†, drafting and design technology†, manufacturing technology†

Philco Technical Institute,
219 N. Broad St., Philadelphia 19107
Private. Benjamin J. Pensiero, dir.
Total enrolment: 400
Technician enrolment: 370
Accreditation: State Ed. Dept.
Admission: High-school graduation, testing
Data processing technology, computer technology, electronics technology, automotive technology

Point Park Junior College,
201 Wood St., Pittsburgh 15222
Private. D. C. Finkelhor, pres.
Total enrolment: 2,373
Technician enrolment: 215
Accreditation: State Ed. Dept.
Admission: High-school graduation, satisfactory grades, recommendation from principal and/or counselor, CEEB recommended
Drafting technology, electronics technology, data processing technology, computer technology, nursing

Reading Senior High School,
13th and Douglass Sts., Reading 19604
Public. Roland P. Kyle, prin.
Total enrolment: 2,240
Technician enrolment: 40
Accreditation: MSA
Electrical technology, electronics technology

Spring Garden Institute,
Broad and Spring Garden Sts., Philadelphia 19123
Private. Robert H. Thompson, pres.
Total enrolment: 335
Technician enrolment: 335
Accreditation: State Ed. Dept.
Admission: High-school graduation, 2 units math, 2 units science, SAT of CEEB

Building construction technology, electronics technology†, industrial electronic technology, chemical technology, automotive technology, industrial technology, mechanical technology†

Spring Garden Institute, Automotive Training Center,
2815 N. 17th St., Philadelphia 19132
Private. Robert H. Thompson, pres.
M. R. Hunter, tech. dir.
Total enrolment: 349
Technician enrolment: 322
Accreditation: State Ed. Dept.
Admission: High-school graduation and/or testing
Auto-diesel technology, automotive technology, combustion power technology, internal combustion (engineering) technology

Steel Valley Technical School,
4920 Buttermilk Hollow Rd., West Mifflin 15122
Public. John Duronio, dir.
Total enrolment: 398
Technician enrolment: 398
Accreditation: State Ed. Dept.
Admission: Special interest in technology
Data processing technology, civil technology, electronics technology, instrumentation technology, auto-diesel technology, fluid power (engineering) technology, marketing-merchandising technology

Technical High School,
723 Adams Ave., Scranton
Public. W. Albert Murphy, prin.
Total enrolment: 1,509
Technician enrolment: 475
Accreditation: State Ed. Dept.
Data processing technology**, architectural drafting technology, computer technology**, electrical technology, electronics technology, nursing, auto-diesel technology**, automotive technology, internal combustion (engineering) technology, drafting technology, machine tool technology, mechanical drafting technology, printing technology, welding technology, machine and metal shop

Temple University Technical Institute,
Broad St. and Columbia Ave., Philadelphia 19122
Private. William A. Schrag, dean
Theodore P. Vassallo, coord.
Total enrolment: 1,700
Accreditation: MSA
Admission: High-school graduation plus satisfactory scores on SAT of CEEB
Architectural design and building construction technology†, chemical engineering technology†, electronic engineering technology†, mechanical engineering technology†

Upper Bucks County Area Vocational-Technical School,
Star Route, Perkasie 18944
Public. H. James Ross, prin.
Total enrolment: 647
Technician enrolment: 200
Accreditation: MSA
Admission: Ninth grade completion, good academic standing
Data processing technology, computer technology, electrical technology, electronic communications technology, electronics technology, chemical technology, design technology

Vale Technical Institute,
Vale Tech Center, Blairsville 15717
Private. E. C. Vale, pres.
Boyd L. Muir, dir. of training
Total enrolment: 250
Technician enrolment: 150
Accreditation: NATTS
Admission: High-school graduation
Automotive technology

Wilkes-Barre City Schools,
83 N. Washington St., Wilkes-Barre 18701
Public. Wm. J. Morgan, dir.
Total enrolment: 6,000
Technician enrolment: 400
Accreditation: MSA
Admission: Test battery, math background, demonstrated interest
Data processing technology**, computer technology**, electronic communications technology**, electronics technology**, industrial electronic technology**

Williamsport Area Community College, 1005 W. Third St.,
Williamsport 17701
Public. Kenneth E. Carl, pres.
Lewis H. Bardo, dean
Total enrolment: 1,594
Technician enrolment: 1,335
Accreditation: MSA, State Ed. Dept.
Admission: High-school graduation or equivalent, entrance exam
Data processing technology, architectural drafting technology, building construction technology, construction technology, civil technology, structural engineering and design technology, surveying technology, computer technology, electrical technology, electronic drafting technology, electronics technology, industrial electronic technology, nursing, graphic arts technology, instrumentation technology, lithographic technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, combustion power technology, internal combustion (engineering) technology, aviation maintenance technology, design technology, industrial illustration technology, machine tool technology, mechanical drafting technology, office machine technology, welding technology

PUERTO RICO

Technological Institute of Puerto Rico,
33 Cesar Gonzalez St., Industrial Zone, Hato Rey 00918
Public. A. Baez Bermejo, dir.
Technician enrolment: 507
Accreditation: State Ed. Dept.
Admission: High-school graduation, CEEB
Data processing technology**, civil technology, highway technology*, electrical technology, electronics technology**, chemical technology, airconditioning, heating, and refrigeration technology, mechanical technology

University of Puerto Rico, School of Engineering,
College Station, Mayaguez 00708
Public. E. Olivieri Cintron, dean
Total enrolment: 2,500
Technician enrolment: 250
Accreditation: MSA
Admission: High-school graduation, entrance exam
Building construction technology, highway technology, surveying technology, electrical technology, electronics technology, mechanical technology

RHODE ISLAND

New England Technical Institute of Rhode Island, Inc.,
184 Early St., Providence 02907
Private. E. G. Earle, pres.
Technician enrolment: 246
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent (day students), electronics or mechanical background (evening students)
Electronics technology**, airconditioning, heating, and refrigeration technology**, industrial electronic technology**, architectural drafting technology, structural engineering and design technology, computer technology, electro-mechanical drafting technology, electronic communications technology**, electronic drafting technology**, medical electronic technology, instrumentation technology, design technology, drafting technology**, industrial drafting and design technology**, mechanical drafting technology**

Rhode Island Radio and Electronics School, 14 Third St.,

Providence 02906
Private. M. R. Reynolds, pres.
Thomas F. Geary, dir.
Total enrolment: 300
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: High-school graduation
Commercial broadcast technology, electronic communications technology, electronics technology

ROGER WILLIAMS JUNIOR COLLEGE,
160 Broad St., Providence 02910
Private. Ralph E. Gauvey, pres.
Total enrolment: 701
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Construction technology, architectural drafting technology*, surveying technology*, electrical technology, drafting technology*, mechanical and production engineering technology

VOCATIONAL-TECHNICIAN SCHOOL OF RHODE ISLAND,
Corliss Pk., Providence
Public. J. Rocchio, prin.
Total enrolment: 700
Technician enrolment: 500
Admission: Employment in areas related to instruction
Automotive technology*, electrical technology*, electronics technology*, industrial electronic technology*, machine tool technology*, sanitation technology*

SOUTH CAROLINA

FLORENCE-DARLINGTON TECHNICAL EDUCATION CENTER,
P. O. Drawer 269, Florence
Public. Fred C. Fore, dir.
Ray Bond, tech. div.
Total enrolment: 1,050
Technician enrolment: 310
Accreditation: State Ed. Dept.
Admission: High-school graduation, aptitude test
Field crop technology, aviation electronics technology, electronics technology, industrial electronic technology, dental technology, X-ray technology, chemical technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, drafting technology, industrial technology, machine tool technology

GREENVILLE TECHNICAL EDUCATION CENTER,
South Pleasantburg Dr., Greenville
Public. T. E. Barton, dir.
Total enrolment: 500
Technician enrolment: 200
Admission: Qualify on GATB
Electronic data processing technology, drafting technology, electronics technology, drafting and tool design, machine tool technology, mechanical technology, instrumentation*, textile technology, chemical technology

McCLENAGHAN HIGH SCHOOL,
504 S. Dargan St., Florence
Public. J. Carlyle Lever, prin.
Total enrolment: 1,100
Accreditation: SA
Electronics technology, airconditioning, heating, and refrigeration technology, automotive technology

PIEDMONT TECHNICAL EDUCATION CENTER,
P. O. Box 831, Greenwood 29646
Public. Stanley I. Hudnall, Jr., dir.
Admission: High-school graduation or equivalent plus admissions test
Electronics technology, drafting and design technology, industrial technology

RICHLAND TECHNICAL EDUCATION CENTER,
316 Beltline Blvd., Columbia 29205
Public. Robert L. Grigsby, pres.
Charles W. Branch, dean
Total enrolment: 3,614
Technician enrolment: 644
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, CEEB
Data processing technology**, architectural engineering technology**, civil technology**, electronics technology**, dental hygiene**, chemical technology**, mechanical technology**, tool and die design**

SPARTANBURG COUNTY TECHNICAL EDUCATION CENTER,
Highway I-85, P. O. Drawer 4386, Spartanburg 29303
Public. P. Dan Hull, dir.
Total enrolment: 910
Technician enrolment: 340
Accreditation: State Ed. Dept.
Admission: High-school graduation or 18 yrs of age, basic knowledge of math and science
Data processing technology**, civil technology**, surveying technology*, electronics technology, industrial electronic technology*, metallurgical technology*, textile engineering technology**, airconditioning, heating, and refrigeration technology*, automotive technology*, industrial drafting and design technology**, industrial technology**, machine shop technology*, tool and die technology**, welding technology*, ind. laboratory assistants technology*

SUMTER AREA TECHNICAL EDUCATION CENTER,
506 Guignard Dr., Sumter 29150
Public. Wm. Cecil Walters, dir.
Joseph O. Ramsay, div. hd.
Total enrolment: 600
Technician enrolment: 100
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Agri-business technology, civil technology, industrial electronic technology*, medical laboratory technology*, X-ray technology, engineering science technology, airconditioning, heating, and refrigeration technology*, auto-diesel technology*, automotive technology*, drafting technology*, industrial technology, machine tool technology*, welding technology*, sewing machine mechanics*

YORK COUNTY TECHNICAL EDUCATION CENTER, 21 A Bypass,
Rock Hill 29730
Public. J. D. Gault, dir.
Baxter M. Hood, assoc. dir.
Total enrolment: 360
Technician enrolment: 110
Accreditation: State Ed. Dept.
Admission: High-school graduation; CEEB for technology curriculum
Data processing technology, structural engineering and design technology, electronics technology, X-ray technology, textile engineering technology, airconditioning, heating, and refrigeration technology, industrial electronics, machine shop, welding

SOUTH DAKOTA

LAKE AREA VOCATIONAL-TECHNICAL SCHOOL,
Watertown 57201
Public. Donald G. Lindahl, dir.
Total enrolment: 250
Technician enrolment: 100
Accreditation: NCA
Admission: Age 16, prefer high-school graduate
Building construction technology, electrical technology, dental technology, auto-diesel technology, automotive technology, aviation maintenance technology, drafting technology, industrial drafting and design technology, machine tool technology

MITCHELL PUBLIC SCHOOLS,
Technical Education Division, Mitchell 57301
Public. Robert W. McCardle, supt.
Albert Vander Linde, dir. of planning
Total enrolment: 2,832
Technician enrolment: 127
Accreditation: State Ed. Dept.
Electronic communications technology, nursing, automotive technology, machine tool technology

PRESENTATION COLLEGE,
1500 N. Main, Aberdeen 57401
Private. Sister M. Alicia, pres.
Total enrolment: 236
Technician enrolment: 67
Admission: High-school graduation, C average
Medical records technology, medical technology, nursing, X-ray technology

SOUTHERN STATE COLLEGE,
Springfield 57062
Public. Allen R. Millar, pres.
Thomas C. Stone, dir.
Total enrolment: 875
Technician enrolment: 250
Accreditation: NCA
Admission: High-school graduation or equivalent
Architectural drafting technology, building construction technology, industrial electronic technology, auto-diesel technology, automotive technology, machine tool technology, mechanical drafting technology, auto body technology

TENNESSEE

ATHENS AREA VOCATIONAL TECHNICAL SCHOOL, P. O. Box 148,
Athens 37303
Public. Robert E. Barnett, dir.
Total enrolment: 330
Technician enrolment: 60
Accreditation: State Ed. Dept.
Admission: High-school graduation preferred but not required if entrance exam is suitable
Industrial electronic technology, nursing, airconditioning, heating, and refrigeration technology, drafting technology**

BRISTOL TECHNICAL SCHOOL,
McDowell St., Bristol 37620
Public. C. R. Marston, dir.
C. E. Phillips, supv., evening school
Total enrolment: 945
Technician enrolment: 327
Accreditation: State Ed. Dept.
Admission: 16 yrs. of age, specific prerequisites vary depending on courses
Electrical technology*, electro-mechanical drafting technology*, electro-mechanical technology, electronic communications technology*, electronics technology**, automotive technology*, industrial drafting and design technology**, mechanical and production engineering technology*

CENTRAL HIGH SCHOOL,
Wartburg 37887
Public. John R. Dillon, prin.
Bernard Dyer, tech. ed. chm.
Total enrolment: 516
Technician enrolment: 140
Accreditation: SA
Electronics technology

CHATTANOOGA STATE TECHNICAL INSTITUTE,
4501 Amnicola Highway, Chattanooga 37406
Public. Edgar H. Sessions, dir.
Edward L. Weld, tech. ed. chm.
Total enrolment: 900
Technician enrolment: 900
Accreditation: State Ed. Dept.
Admission: High-school graduation
Automation engineering technology, civil engineering technology, electrical engineering technology, electronic engineering technology, mechanical engineering technology, electronic data processing technology, computer science technology, chemical technology, nuclear technology

CLARKSVILLE AREA TECHNICAL SCHOOL,
700 Cumberland Dr., Clarksville 37040
Public. H. Green, dir.
Total enrolment: 165
Technician enrolment: 125
Accreditation: State Ed. Dept.
Industrial electronic technology**, industrial drafting and design technology**, machine shop**

COLUMBIA STATE COMMUNITY COLLEGE,
401 W. 7th St., Columbia 38401
Public. Darrell D. Simmons, dir.
Total enrolment: 475
Technician enrolment: 85
Admission: Open door
Construction technology, civil technology, computer science technology, electronic communications technology, electronic automation technology, nursing, mechanical technology, food service administration

CUMBERLAND COUNTY HIGH SCHOOL,
Crossville
Public. Everett L. Gibson, prin.
Total enrolment: 1,300
Technician enrolment: 25
Accreditation: State Ed. Dept.
Admission: To be enrolled in electronics —science, math, and algebra are required
Electronics technology

FRANKLIN COUNTY TECHNICAL SCHOOL,
Franklin County High School, Winchester 37398
Public. Francis Bass, prin.
Raymond Green, tech. ed. chm.
Total enrolment: 44
Technician enrolment: 44
Accreditation: State Ed. Dept.
Admission: 2 yrs of math, high aptitude in math and science
Electronics technology

HUME FOGG TECHNICAL SCHOOL,
700 Broad, Nashville 37202
Public. J. E. Binns, Jr., dir.
Total enrolment: 2,000
Technician enrolment: 60
Accreditation: State Ed. Dept.
Admission: High-school graduation, passing grades on test battery
Data processing technology**

MORRISTOWN AREA VOCATIONAL-TECHNICAL SCHOOL,
P. O. Box 130, Morristown 37814
Public. Eugene G. Smith, dir.
Total enrolment: 140
Technician enrolment: 20
Accreditation: State Ed. Dept.
Admission: GATB, 17 yrs. of age
Electronic drafting technology

NASHVILLE AUTO-DIESEL COLLEGE,
308 YMCA Bldg., Nashville 37219
Private. H. O. Balls, pres.
Total enrolment: 1,200
Admission: High-school graduation
Auto-diesel technology, automotive technology, auto body repair, arc and acetylene welding

OBION COUNTY CENTRAL HIGH SCHOOL,
Troy
Public. James E. McKee, prin.
Total enrolment: 774
Technician enrolment: 12
Accreditation: State Ed. Dept.
Electronics technology

TENNESSEE INSTITUTE OF ELECTRONICS,
4711 Old Kingston Pike, Knoxville 37919
Private. Charles F. James, pres.
George E. Hill, exec. dir.
Total enrolment: 120
Accreditation: NATTS
Admission: High-school graduation, aptitude test
Electronics specialist

TRI-CITIES STATE AREA VOCATIONAL-TECHNICAL SCHOOL,
Blountville 37617
Public. James M. Pierce, supt.
Total enrolment: 325
Technician enrolment: 149
Admission: Resident of state, 17 yrs. old, aptitude test
Electrical technology*, electronic drafting technology*, electronics technology*, industrial electronic technology*, automotive technology**, design technology**, drafting technology**, machine tool technology**

Vocational-Technical Teacher Institute,
Y-12 Plant, Bldg. 9709, Oak Ridge 37830
Public. Donald E. Maurer, dir.
Total enrolment: 330
Technician enrolment: 180
Accreditation: SA
Admission: High-school graduation or GEDT, selected scores on GATB, training or work experience in the technical area
Glassblowing technology, industrial electronic instrumentation, physical testing technology, machining technology, industrial drafting technology, welding

TEXAS

Alvin Junior College,
3110 S. Mustang Rd., Alvin 77511
Public. W. H. Meyers, dean
Total enrolment: 1,510
Accreditation: SA
Admission: High-school graduation with 16 units of high-school credit
Data processing technology, architectural drafting technology, surveying technology, electronics technology, nursing

Amarillo College,
2201 Washington, Amarillo 79105
Public. A. B. Martin, pres.
Hardy E. Stevens, dean, tech.-voc. ed.
Total enrolment: 2,464
Technician enrolment: 264
Accreditation: SA
Admission: High-school graduation or individual approval if over 21 yrs of age
Data processing technology, architectural drafting technology, computer technology, electronic communications technology*, electronics technology, chemical technology, airconditioning, heating, and refrigeration technology, auto-diesel technology*, automotive technology, drafting technology, hydraulics technology*, mechanical drafting technology

Arlington State College,
University of Texas, Arlington 76010
Public. J. R. Woolf, pres.
E. H. Ford, tech. ed. chm.
Total enrolment: 12,000
Technician enrolment: 650
Accreditation: SA
Admission: High-school graduation, SAT
Architectural drafting technology†, architectural engineering technology†, civil technology†, surveying technology, aviation electronics technology, electrical technology†, electronic drafting technology†, electronics technology†, graphic arts technology†, aeronautical and astronautical (engineering) technology†, machine tool technology†, mechanical and production engineering technology†, mechanical drafting technology, mechanical technology

Austin Public School,
6100 Guadalupe, Austin 78752
Public. Henry A. Horton, Jr., dir.
Total enrolment: 1,058
Accreditation: State Ed. Dept.
Admission: Aptitude tests required
Agri-business technology, data processing technology, publications technology, architectural drafting technology, architectural engineering technology, electrical technology, dental technology, health technology, medical laboratory technology, medical records technology, medical technology, nursing, ceramic technology, graphic arts technology, lithographic technology, metallurgical technology, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology, industrial drafting and design technology, machine tool technology, mechanical and production engineering technology, mechanical drafting technology, mechanical technology

Cisco Junior College,
Rt. 3, P. O. Box 3, Cisco 76437
Public. Leland Willis, pres.
Roy Benton, dean, tech.-voc. ed.
Total enrolment: 935
Technician enrolment: 350
Accreditation: SA
Admission: High-school graduation
Data processing technology, architectural drafting technology, computer technology, auto-diesel technology, automotive technology, drafting technology, machine tool technology

Clarendon College,
P. O. Box 610, Clarendon 79226
Public. Kenneth D. Vaughan, pres.
Beryl D. Clinton, dean
Total enrolment: 237
Technician enrolment: 29
Accreditation: State Ed. Dept.
Admission: High-school graduation or over 21 yrs. of age, ACT
Agri-business technology, health technology

Cooke County Junior College,
Gainesville 76240
Public. John H. Parker, pres.
T. D. Bolinger, dir.
Total enrolment: 1,104
Technician enrolment: 314
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation or GEDT, ACT required from high school
Data processing technology, computer technology, electronic communications technology, graphic arts technology, automotive technology, aviation technology, drafting technology, mechanical drafting technology, mechanical technology

Del Mar College,
Corpus Christi 78404
Public. Jean Richardson, pres.
E. L. Williams, dean, tech. inst.
Total enrolment: 3,760
Technician enrolment: 308
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation with 15 units of high-school study
Data processing technology, electrical technology, electronic communications technology, nursing, chemical technology, instrumentation technology, airconditioning, heating, and refrigeration technology, drafting technology

El Centro College,
Main and Lamar Sts., Dallas 75202
Public. Bill J. Priest, pres.
Fulton R. Smith, coord.
Total enrolment: 4,300
Technician enrolment: 200
Admission: High-school graduation, GEDT
Data processing technology**, construction technology, electronics technology**, nursing, X-ray technology, chemical technology, drafting technology**, fire-protection technology, inhalation therapy

Elkins Institute of Radio and Electronics, Inc.,
2603 Inwood Rd., Dallas 75235
Private. Bill Elkins, pres.
Gene Riley, dir. of training
Total enrolment: 150
Technician enrolment: 150
Accreditation: NATTS, State Ed. Dept.
Admission: Entrance exam
Commercial broadcast technology, electronic communications technology, electronics technology, industrial electronic technology

Grayson County Junior College,
P. O. Drawer 979, Denison 75020
Public. Cruce Stark, pres.
B. J. Dean, dir. of tech.-voc. div.
Total enrolment: 1,800
Technician enrolment: 180
Accreditation: State Ed. Dept.
Admission: High-school graduation, either CEEB or ACT
Data processing technology, electronics technology, nursing, automotive technology, drafting technology, police science, mid-management

Great Southwest Industrial College,
1836 S. Central Expressway, Dallas 75222
1040 Yale St., Houston 77007

Private. J. B. Ruebsahm, pres.
Edward E. Caygle, Jr., dir. of ed.
Total enrolment: 450
Technician enrolment: 450
Accreditation: NATTS
Admission: High-school graduation or equivalent, entrance exam
Data processing technology*, architectural drafting technology*, building construction technology*, computer technology*, electrical technology*, electro-mechanical drafting technology*, electronic drafting technology*, electronics technology*, industrial electronic technology*, metallurgical technology*, automotive technology*, drafting technology*, industrial drafting and design technology*, industrial technology*, machine tool technology*, mechanical drafting technology*, mechanical technology*

GREENVILLE INDEPENDENT SCHOOL DISTRICT, P. O. Box 1022, Greenville 75401
Public. Wesley N. Martin, supt.
James W. Cathey, coord.
Total enrolment: 5,228
Technician enrolment: 200
Accreditation: SA
Admission: Min. requirements
Electrical technology, electronics technology, nursing, automotive technology, mechanical technology

HENDERSON COUNTY JUNIOR COLLEGE, Cardinal Dr., Athens 75751
Public. Orval Pirtle, pres.
J. B. Simmons, dir., tech.-voc. ed.
Total enrolment: 1,300
Technician enrolment: 250
Accreditation: SA
Admission: High-school graduation
Computer technology, electronics technology, drafting technology

HILL JUNIOR COLLEGE, P. O. Box 619, Hillsboro 76645
Public. W. Lamar Fly, pres.
Truman T. Isbell, tech. ed. chm.
Total enrolment: 720
Technician enrolment: 100
Accreditation: SA
Admission: High-school graduation or equivalent
Electrical technology, electronic drafting technology, medical laboratory technology, automotive technology, drafting technology

HOWARD COUNTY JUNIOR COLLEGE, Big Spring
Public. W. A. Hunt, pres.
Total enrolment: 876
Accreditation: SA
Admission: High-school graduation or 18 yrs. old, satisfactory test scores
Electrical and electronics technology, metallurgical technology

JAMES CONNALLY TECHNICAL INSTITUTE, Waco 76705
Public. Roy W. Dugger, dir.
F. J. Konecny, asst. dir.
Total enrolment: 394
Technician enrolment: 219
Admission: High-school graduation or equivalent
Agri-business technology, commercial design technology, data processing technology, architectural drafting technology, building construction technology, construction technology, civil technology, highway technology, electrical technology, electro-mechanical technology, electronics technology, dental technology, chemical technology, instrumentation technology, airconditioning, heating, and refrigeration technology, automotive technology, design technology, drafting technology, industrial drafting and design technology, industrial illustration technology, machine tool technology, mechanical technology, fire-protection technology, technical communication, water and waste water technology, welding technology

KILGORE COLLEGE, 1100 Broadway, Kilgore 75662
Public. R. C. Watson, pres.
Frank J. Zatopek, dir., tech.-voc. div.
Total enrolment: 2,500
Technician enrolment: 350
Accreditation: SA
Admission: High-school graduation
Data processing technology, graphic arts technology, automotive technology, drafting technology, oil and gas technology

LAREDO JUNIOR COLLEGE, Laredo 78040
Public. Ray A. Laird, pres.
Eduardo Garcia, tech. ed. chm.
Total enrolment: 1,100
Technician enrolment: 75
Accreditation: SA
Admission: High-school graduation
Data processing technology, nursing

LEE COLLEGE, P. O. Box 818, Baytown 77520
Public. C. J. Collum, dean, tech.-voc. ed.
Total enrolment: 2,300
Technician enrolment: 1,480
Accreditation: SA
Admission: High-school graduation
Data processing technology, publications technology, architectural drafting technology, electronics technology, industrial electronic technology, nursing, chemical technology, graphic arts technology, instrumentation technology, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology, machine tool technology

LETOURNEAU COLLEGE, P. O. Box 7001, Longview 75601
Private. Richard H. LeTourneau, pres.
Elton W. Archer, chm., tech. programs div.
Total enrolment: 702
Technician enrolment: 79
Accreditation: Assoc. of Texas Colleges and Universities
Admission: High-school graduation, 4 units English, 2 units social science, 1 unit nat. science, 2 units math, electives to make up 16 units
Aviation technology

LUBBOCK CHRISTIAN COLLEGE, 5601 W. 19th, Lubbock 79407
Private. F. W. Mattox, pres.
Norman Keener, academic dean
Total enrolment: 765
Technician enrolment: 21
Accreditation: SA
Admission: High-school graduation
Agri-business technology, electrical technology, nursing, graphic arts technology

MCLENNAN COMMUNITY COLLEGE, Waco 76703
Public. Wilbur A. Ball, pres.
Chester R. Hastings, dean
Total enrolment: 889
Technician enrolment: 150
Accreditation: Assoc. of Texas Colleges and Universities
Admission: High-school graduation or satisfactory test scores for beyond high-school age
Nursing

NAVARRO JUNIOR COLLEGE, P. O. Box 1170, Corsicana 75110
Public. Ben W. Jones, pres.
Larry L. Reed, dean, tech. arts div.
Total enrolment: 1,154
Technician enrolment: 212
Accreditation: SA
Admission: High-school graduation or age 19½—successful passing of GEDT
Farm and ranch management, data processing technology, architectural drafting technology, electronic drafting technology, electronics technology, nursing, offset printing, technical illustration

ODESSA COLLEGE, P. O. Box 3752, Odessa 79760
Public. Jack Rodgers, pres.
R. Jerry Anstead, dean, tech.-voc. ed.
Total enrolment: 2,529
Technician enrolment: 782

Accreditation: SA
Admission: High-school graduation
Data processing technology, computer technology, commercial broadcast technology, electrical technology, electronic communications technology, electronics technology, industrial electronic technology, dental technology, health technology, medical laboratory technology, medical records technology, medical technology, nursing, chemical technology, instrumentation technology, metallurgical technology, airconditioning, heating, and refrigeration technology, automotive technology, design technology, drafting technology, mechanical and production engineering technology, mechanical technology, drilling technology, instrumentation technology, welding technology

Prairie View A & M College,
Prairie View
Public. Alvin I. Thomas, pres.
S. R. Collins, act. dean
Total enrolment: 3,650
Technician enrolment: 350
Accreditation: SA
Admission: High-school graduation
Architectural drafting technology, building construction technology, electrical technology, electronics technology, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology, metal technology

St. Philips College,
2111 Nevada St., San Antonio 78203
Public. Wayland P. Moody, pres.
Mitchel L. Ammons, dir. of tech.-voc. programs
Total enrolment: 1,100
Technician enrolment: 900
Accreditation: SA, State Ed. Dept.
Admission: GEDT or copy of transcript from last school attended
Architectural drafting technology, surveying technology, electronics technology, nursing, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology, welding technology

San Antonio College,
1300 San Pedro Ave., San Antonio 78212
Public. Wayland P. Moody, pres.
Clarkson Groos, dir., tech. ed.
Total enrolment: 10,500
Technician enrolment: 1,024
Accreditation: SA
Admission: High-school graduation or equivalent
Data processing technology, commercial broadcast technology, electrical technology, dental assisting, medical assisting, nursing, engineering science technology, instrumentation technology, airconditioning, heating, and refrigeration technology, drafting technology, police training, inhalation therapy, mortuary science

San Antonio Part-Time and Evening School, 637 N. Main Ave.,
San Antonio 78205
Public. W. H. McChesney, prin.
Technician enrolment: 160
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Refrigeration, airconditioning, and heating technology

San Jacinto College,
8060 Spencer, Pasadena 77505
Public. Thomas J. Mims, dean
S. F. Hrachovy, supv.
Total enrolment: 4,376
Technician enrolment: 1,208
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation or equivalent
Commercial design technology, data processing technology, publications technology, building construction technology, construction technology, civil technology, highway technology, surveying technology, electronic communications technology, electronic drafting technology, industrial electronic technology, nursing, graphic arts technology, instrumentation technology, lithographic technology, airconditioning, heating, and refrigeration technology, drafting technology, fire-protection technology, food-processing technology

South Plains College,
Levelland 79336
Public. Marvin L. Baker, pres.
J. Frank Hunt, dir. of spec. svcs.
Total enrolment: 1,300
Technician enrolment: 75
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation or equivalent
Data processing technology, drafting technology

Southwest Texas Junior College,
Uvalde 78801
Public. Wayne Matthews, pres.
Jerald Underwood, dean of instruc.
Total enrolment: 834
Technician enrolment: 54
Accreditation: SA, State Ed. Dept.
Admission: High-school graduation or equivalent
Data processing technology

Tarrant County Junior College District,
1419 Fort Worth National Bank Bldg., Fort Worth 76102 (Opening September 1967)
Public. Joe B. Rushing, pres.
Jimmie C. Styles, vice pres. for prog. development
Admission: High-school graduation or GEDT
Data processing technology, architectural drafting technology, building construction technology, civil technology, aviation electronics technology, computer technology, electrical technology, electronic communications technology, electronics technology, industrial electronic technology, nursing, automotive technology, aviation maintenance technology, aviation technology, design technology, drafting technology, industrial drafting and design technology, machine tool technology, fire-protection technology, law enforcement, aerospace, machine shop technology

Temple Junior College,
2600 S. First St., Temple 76501 (Opening September 1967)
Public. Hubert M. Dawson, pres.
Total enrolment: 1,252
Admission: High-school graduation, GEDT, 16 yrs. of age or older
Data processing technology, architectural drafting technology, computer technology, airconditioning, heating, and refrigeration technology, automotive technology, industrial drafting and design technology

Texarkana College,
Texarkana 75501
Public. J. W. Cady, pres.
B. J. Murdock, dean, voc.-tech. ed.
Total enrolment: 1,603
Technician enrolment: 140
Accreditation: State Ed. Dept.
Admission: High-school graduation, GEDT
Data processing technology**, architectural engineering technology**, computer technology, nursing, aviation technology, industrial drafting and design technology, police technology

Texas A & M University,
Engineering Extension Service, College Station
Public. H. D. Bearden, dir.
Total enrolment: 8,000
Technician enrolment: 1,875
Admission: High-school graduation or equivalent
Electronics technology, water utilities technology*, telephone technology*

Tyler Junior College,
Tyler
Public. H. E. Jenkins, pres.

Total enrolment: 4,567
Technician enrolment: 415
Accreditation: SA
Admission: High-school graduation
Electronic data processing technology, drafting technology, petroleum technology, surveying technology, electronics technology, nursing, technical illustration-advertising art

University of Houston, College of Technology,
Houston 77004
Public. H. E. McCallick, dean
Total enrolment: 18,000
Technician enrolment: 800
Accreditation: SA
Admission: High-school graduation, SAT
Civil technology†, electrical technology†, electronics technology†, airconditioning, heating, and refrigeration technology†, drafting technology†, mechanical technology†

University of Texas at Austin,
Division of Extension, Drawer V, Austin 78712
Public. A. J. Edwards, dir.
Technician enrolment: 2,880
Admission: Tradesman desirous of extending his knowledge
Automotive technology*

Wharton County Junior College,
911 Boling Highway, Wharton 77488
Public. Theodore Nicksick, Jr., pres.
J. W. Haynie, dir. of voc.-tech. ed.
Total enrolment: 1,925
Technician enrolment: 300
Accreditation: SA
Admission: High-school graduation or individual approval for adults
Data processing technology, electronics technology, drafting technology

UTAH

Brigham Young University,
Provo 84601
Private. E. C. Jeppsen, dean
Total enrolment: 20,028
Technician enrolment: 917
Accreditation: NWA
Admission: High-school graduation or GEDT
Commercial design technology, data processing technology, building construction technology**, electrical technology, electronics technology, nursing, chemical technology, graphic arts technology, drafting technology, industrial drafting and design technology*, industrial technology*, machine tool technology, mechanical technology, library technician, photographic technician, piano technician, radio-television engineering technology

College of Eastern Utah,
Price
Public. I. Longhurst, tech. div. chm.
Total enrolment: 750
Technician enrolment: 65
Accreditation: NWA
Admission: High-school graduation or 18 yrs. or older
Machine tool technology, highway technology, surveying technology, electronic communications technology, automotive technology, hydraulics technology, industrial drafting and design technology

College of Southern Utah,
Cedar City
Public. M. Roper, tech. div. chm.
Total enrolment: 1,300
Technician enrolment: 160
Accreditation: NWA
Agri-business technology, data processing technology, architectural drafting technology, building construction technology, highway technology, computer technology, electrical technology, electronics technology, ceramic technology, automotive technology, drafting technology

Dixie College,
St. George 84770
Public. Ferron C. Losee, pres.
Dale Peterson, dean of applied arts
Total enrolment: 1,000
Technician enrolment: 40
Accreditation: NWA
Admission: Open-door policy
Architectural drafting technology, surveying technology, electronics technology, automotive technology, aviation technology, drafting technology

Institute for Technological Training, University of Utah,
Division of Continuing Education, P. O. Box 200, Salt Lake City 84110
Public. John R. Barnett, Jr., coord.
Total enrolment: 15,000
Technician enrolment: 350
Accreditation: NWA
Admission: High-school graduation
Chemical and metallurgical technology, civil technical technology, computer science technology, electronics technology, industrial technology, mechanical technology, technical writing and publishing technology

Salt Lake Trade Technical Institute,
4600 S. Redwood Rd., Salt Lake City 84107
Public. Jay L. Nelson, pres.
R. H. Hansen, vice pres.
Total enrolment: 3,600
Technician enrolment: 540
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, entrance exams
Architectural drafting technology, building construction technology, civil technology, surveying technology, electrical technology, electronic communications technology, electronics technology, industrial electronic technology, nursing, graphic arts technology, lithographic technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, design technology, drafting technology, industrial drafting and design technology, industrial illustration technology, machine tool technology, mechanical and production engineering technology, mechanical drafting technology

Snow College,
150 College Ave., Ephraim 84627
Public. Floyd S. Holm, dir.
Merritt E. Bradley, chm., ind. tech. voc. ed.
Total enrolment: 800
Technician enrolment: 75
Accreditation: NWA
Admission: High-school graduation or 19 yrs. of age and GEDT
Data processing technology, electronics technology, metallurgical technology, automotive technology, industrial technology, welding technology

Utah State University,
Logan 84321
Public. Daryl F. Chase, pres.
Neill C. Slack, act. dept. hd., ind.-tech. ed. dept.
Total enrolment: 8,000
Technician enrolment: 25
Accreditation: NWA
Admission: High-school graduation or GEDT
Auto-diesel technology, aviation technology, drafting technology, welding technology

Utah Trade Technical Institute at Provo,
1395 N. 150 East, Provo 84601
Public. Wilson W. Sorensen, pres.
Donald L. Manson, ed. vice pres.
Total enrolment: 1,400
Technician enrolment: 300
Accreditation: State Ed. Dept.
Admission: High-school graduation and pass GATB for area
Architectural drafting technology**, building construction technology**, structural engineering and design technology**, electrical technology**, electro-mechanical technology**, electronic drafting technology**, electronics tech-

nology**, industrial electronic technology**, dental assistant, nursing, instrumentation technology**, airconditioning, heating, and refrigeration**, auto-diesel**, automotive**, design technology**, drafting technology**, fluid power (engineering)*, hydraulics*, industrial drafting and design technology**, machine tool**, mechanical drafting*, fire-protection*

WEBER STATE COLLEGE,
3750 Harrison Blvd., Ogden 84403
Public. Wendell L. Esplin, dean, trade-tech. ed.
Total enrolment: 6,137
Technician enrolment: 480
Accreditation: NWA
Admission: High-school graduation or equivalent
Data processing technology**, electronics engineering technology, electronics technology**, auto-diesel technology**, automotive technology**, automotive engineering technology, drafting technology**, industrial engineering technology, machine tool technology, manufacturing engineering technology

VERMONT

BURLINGTON HIGH SCHOOL,
52 Institute Rd., Burlington 05401
Public. Glenn M. Fay, prin.
William C. Whitman, dir., voc. ed.
Total enrolment: 1,450
Technician enrolment: 50
Accreditation: NEA, State Ed. Dept.
Electronics technology, drafting technology

RUTLAND SENIOR HIGH SCHOOL,
Library Ave., Rutland 05701
Public. Henry L. Doll, dir. of voc.-tech. ed.
Total enrolment: 750
Technician enrolment: 107
Accreditation: NEA
Data processing technology*, building construction technology*, electronics technology*, metallurgical technology*, automotive technology*, drafting technology*, machine tool technology*, mechanical drafting technology*, fire-protection technology*

ST. JOHNSBURY TRADE SCHOOL,
24 Western Ave., St. Johnsbury 05819
Public. Lewis J. Streeter, prin.
Total enrolment: 220
Building construction technology†, electrical technology*†, electronics technology*†, automotive technology†, drafting technology*†, machine tool technology*†, mechanical drafting technology†, mechanical maintenance technology†

SPRINGFIELD SENIOR HIGH SCHOOL,
60 Park St., Springfield 05156
Public. Armand Guarino, prin.
Arthur T. Cram, Jr., dir., ad.-voc. ed.
Total enrolment: 680
Technician enrolment: 130
Accreditation: NEA
Building construction technology, electrical technology, electro-mechanical technology, electronics technology, automotive technology, drafting technology, machine tool technology, mechanical drafting technology

VERMONT TECHNICAL COLLEGE,
Randolph Center 05061
Public. P. V. Kieffer, Jr., pres.
Total enrolment: 350
Technician enrolment: 350
Accreditation: State Ed. Dept.
Admission: Varies with technology
Dairy production, highway technology†, electrical technology, electronics technology, instrumentation technology, design technology, mechanical and production engineering technology

VIRGINIA

BLUE RIDGE COMMUNITY COLLEGE,
Weyers Cave 24486
Public. Douglas M. Montgomery, pres.
Nathan Schilling, coord. of tech. ed.
Total enrolment: 500
Technician enrolment: 250
Accreditation: State Ed. Dept.
Admission: Varies with program
Agri-business technology, data processing technology, electronic drafting technology, electronics technology, chemical technology, engineering science technology, airconditioning, heating, and refrigeration technology, automotive technology, design technology, drafting technology, industrial technology, machine tool technology, mechanical drafting technology, mechanical technology, fire-protection technology*

COMMUNITY COLLEGE DIVISION OF OLD DOMINION COLLEGE,
Norfolk 23508
Public. E. A. Kovner, dean
A. I. Godden, dir.
Total enrolment: 1,091
Technician enrolment: 318
Accreditation: SA
Admission: High-school graduation and SAT
Architectural engineering technology, civil technology, electro-mechanical technology, electronics technology, chemical technology, nucleonics, airconditioning, refrigeration, and heating technology, industrial drafting and design technology, mechanical and production engineering technology, marine engineering technology, dental hygiene

DABNEY S. LANCASTER COMMUNITY COLLEGE,
Clifton Forge 24422
Public. Donald E. Puyear, pres.
Admission: High-school graduation or 18 yrs. old and able to benefit from training
Electronics technology, design technology, drafting technology

DANVILLE TECHNICAL INSTITUTE,
1008 S. Main St., Danville 24541
Public. M. J. Van Oot, dir.
Total enrolment: 500
Technician enrolment: 300
Accreditation: State Board of Community Colleges
Admission: High-school graduation, 18 yrs. of age
Data processing technology, electrical technology, graphic arts technology, lithographic technology, textile engineering technology, airconditioning, heating, and refrigeration technology, automotive technology, industrial drafting and design technology, machine tool technology

HAMPTON INSTITUTE,
Hampton 23368
Private. Jerome H. Holland, pres.
James Russel, dir., div. of tech.
Total enrolment: 2,100
Technician enrolment: 400
Accreditation: SA
Admission: Upper half of high-school class
Publications technology*, building construction technology, computer technology*, electrical technology, electro-mechanical drafting technology, electronics technology, fluid power (engineering) technology*, mechanical and production engineering technology, mechanical technology

MARION COLLEGE,
Marion 24354
Private. Thomas W. West, pres.
Total enrolment: 170
Accreditation: State Ed. Dept.
Admission: High-school graduation with 4 units English, 12 others
Dental technology, medical laboratory technology, medical records technology, medical technology, nursing

NEW RIVER VOCATIONAL-TECHNICAL SCHOOL, Radford 24141
Public. J. D. Hopkins, dir.
Total enrolment: 300
Technician enrolment: 250
Accreditation: Va. Board of Community Colleges

Admission: 18 yrs. of age
Electrical technology**, industrial electronic technology**, nursing, instrumentation technology**, automotive technology, industrial drafting and design technology**, machine tool technology**

Northern Virginia Community College, 3443 S. Carlyn Spring Rd., Bailey's Crossroads 22041
Public. Robert Lee McKee, pres.
Gerald O. Cannon, dean of instruc.
Total enrolment: 2,178
Technician enrolment: 1,985
Accreditation: State Ed. Dept.
Admission: High-school graduation or 18 yrs. of age and able to profit from learning
Data processing technology**, architectural drafting technology, civil technology, computer technology**, electromechanical drafting technology, electronic communications technology, electronics technology**, industrial electronic technology, microminiaturization technology, nursing, automotive technology, drafting technology, mechanical technology, police science technology

Peninsula Vocational Technical Education Center, 50th & E Sts., Hampton 23361
Public. Edmond B. Congdon, dir.
Total enrolment: 528
Technician enrolment: 252
Admission: Transcript of grades and aptitude tests
Electrical technology**, electro-mechanical drafting technology*, electro-mechanical technology, electronic communications technology, electronics technology**, industrial electronic technology*, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology**, machine tool technology

Richmond Professional Institute, 901 W. Franklin St., Richmond 23220
Public. R. H. Nelson, Jr., pres.
John V. Ankeney, dir., school of eng. tech.
Total enrolment: 8,849
Technician enrolment: 640
Accreditation: SA
Admission: 2 yrs. high-school algebra or 1 yr. each of algebra and geometry
Building construction technology, construction technology, electrical-electronics technology, drafting and design technology, civil highway technology, airconditioning and refrigeration technology

Valley Vocational-Technical School, Fishersville
Public. M. M. Gray, prin.
Total enrolment: 350
Technician enrolment: 100
Accreditation: State Ed. Dept.
Admission: Passing score on GATB, 16 yrs. of age or older, science and math units required
Data processing technology, electrical technology, electronic drafting technology, electronics technology, metallurgical technology, automotive technology, design technology, drafting technology, industrial drafting and design technology, machine tool technology, mechanical drafting technology

Virginia Mechanics Institute, 1000 E. Marshall St., Richmond 23219
Public. Harley P. Affeldt, dir.
Total enrolment: 650
Accreditation: State Ed. Dept.
Electrical technology*, electronics technology*, industrial electronic technology*, airconditioning, heating, and refrigeration technology*, automotive technology*, drafting technology*

Virginia Western Community College, 3098 Colonial Ave. S.W., Roanoke 24015
Public. Travis McKenzie, pres.
Harry C. Race, chm., tech. div.
Total enrolment: 1,350
Technician enrolment: 500
Accreditation: State Ed. Dept.
Admission: Depends on program
Commercial design technology**, architectural engineering technology**, civil technology**, electronic communications technology, industrial electronic technology, graphic arts technology, automotive technology, drafting technology, mechanical technology, police science

Wytheville Community College, Wytheville 24382
Public. Sherrard T. Moseley, dir.
James L. Branscome, dir. of instruc.
Total enrolment: 400
Technician enrolment: 180
Accreditation: State Ed. Dept.
Admission: High-school graduation, 3 units of math
Agri-business technology, civil technology, surveying technology, drafting technology

York High School, Adult and Technical, Rt. 17, Yorktown 23490
Public. Richard B. Miller, prin.
B. Cecil Dickerson, dir.
Total enrolment: 1,700
Technician enrolment: 636
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Publications technology*, computer technology*, commercial broadcast technology**, electrical technology*, electronic communications technology**, electronic drafting technology*, electronics technology**, industrial electronic technology**, microminiaturization technology*

WASHINGTON

Bellevue Community College, 4333A 128 Ave. S.E., Bellevue 98004
Public. Merle E. Landerholm, pres.
Ramon LaGrandeur, assoc. dean
Technician enrolment: 75
Admission: Open door
Agri-business technology, soils technology, construction technology*, nursing, X-ray technology, industrial technology

Bellingham Technical School, 3028 Lindbergh Ave., Bellingham 98225
Public. Raymond S. Smith, dir.
Total enrolment: 1,580
Technician enrolment: 95
Accreditation: State Ed. Dept.
Admission: Varies with class
Engineering technology, industrial electronics, machine technology, dental assistant, nursing

Big Bend Community College, Moses Lake 98837
Public. Don A. Morgan, pres.
George E. Conatore, dir. of voc.-tech. ed.
Total enrolment: 1,000
Technician enrolment: 350
Accreditation: NWA
Admission: High-school graduation or 18 yrs. of age and able to profit from instruction
Agri-business technology**, agricultural engineering technology**, data processing technology*, building construction technology*, construction technology*, civil technology**, highway technology**, surveying technology**, aviation electronics technology, electrical technology*, electro-mechanical drafting technology*, electro-mechanical technology*, electronic communications technology**, electronic drafting technology*, electronics technology**, industrial electronic technology*, nursing, airconditioning, heating, and refrigeration technology*, automotive technology**, aviation maintenance technology**, aviation technology**, design technology**, drafting technology*, hydraulics technology*, industrial drafting and design technology*, machine tool technology*, mechanical drafting technology*,

mechanical technology**, fire-protection technology*, food-processing technology*

Centralia College,
P. O. Box 639, Centralia 98531
Public. Nels W. Hanson, pres.
Charles W. Coddington, voc. dir.
Total enrolment: 1,500
Technician enrolment: 400
Accreditation: NWA
Admission: High-school graduation or 18 yrs. of age or older
Agri-business technology, data processing technology, civil technology, electronics technology, nursing

Clark College,
1925 Fort Vancouver Way, Vancouver
Public. D. C. Baird, pres.
Total enrolment: 1,830
Technician enrolment: 400
Accreditation: NWA
Admission: High-school graduation
Electronics technology, mechanical technology, agri-business technology, data processing technology, civil technology, highway technology, surveying technology, computer technology*, electrical technology, electronic communications technology, nursing, sanitary engineer technology, chemical technology*, graphic arts technology, metallurgical technology*, auto-diesel technology, automotive technology, drafting technology, industrial drafting and design technology, mechanical drafting technology, police science, fire-protection technology

Clover Park Vocational Technical School,
4500 Steilacoom Blvd., S.W., Lakewood Center 98499
Public. Fred V. Miner, dir.
Total enrolment: 800
Technician enrolment: 475
Accreditation: State Ed. Dept.
Admission: Min. age of 16, testing
Commercial design technology, data processing technology**, publications technology, computer technology*, commercial broadcast technology, electronics technology, medical laboratory technology, medical records technology*, nursing, automotive technology, aviation maintenance technology, machine tool technology, food-processing technology, electronic data processing, computer programing**

Columbia Basin College,
2600 N. Chase Ave., Pasco 99301
Public. Fred Esvelt, pres.
Ed Beaty, dean of instruc.
Total enrolment: 2,000
Technician enrolment: 600
Accreditation: NWA
Admission: High-school graduation or equivalent
Agri-business technology, data processing technology, architectural drafting technology, civil technology, surveying technology, computer technology, electrical technology, electronics technology, industrial electronic technology, nursing, instrumentation technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, industrial illustration technology, machine tool technology, food-processing technology, auto body technology, welding

Edison Technical School,
1625 Broadway, Seattle 98122
Public. John T. Blake, prin.
Total enrolment: 11,000
Technician enrolment: 2,000
Accreditation: NWA, State Ed. Dept.
Admission: High-school graduation or 18 yrs. of age
Automotive technology**, aeronautical technology**, electronic data processing technology**, drafting technology**, architectural drafting technology**, electrical technology**, electronics technology**, industrial electronic technology**, architectural engineering technology**, computer technology**, dental technology**, auto-diesel technology**

Everett Junior College,
801 Wetmore Ave., Everett 98201
Public. Paul P. McCurley, pres.
Ralph Sellhorn, dir. of tech. ed.
Total enrolment: 4,813
Technician enrolment: 500
Accreditation: NWA
Admission: High-school graduation, age 18, or special permission
Data processing technology, architectural drafting technology, construction technology, civil technology, surveying technology, computer technology, electrical technology, electronics technology, industrial electronic technology, nursing, engineering science technology, forest products technology, metallurgical technology, automotive technology, drafting technology, industrial illustration technology, welding technology

Grays Harbor College,
Aberdeen 98520
Public. Edward P. Smith, pres.
Gordon F. Simmons, dir., ad.-voc. ed.
Total enrolment: 1,067
Technician enrolment: 110
Accreditation: NWA
Admission: High-school graduation or 18 yrs. of age
Data processing technology, electronics technology, nursing

Green River Community College,
12401-320 SE, Auburn
Public. Melvin Lindbloom, pres.
Raymond Needham, dean of instruc.
Total enrolment: 2,800
Technician enrolment: 600
Accreditation: State Ed. Dept.
Admission: High-school graduation or special permission
Agri-business technology*, data processing technology**, civil technology**, electrical technology**, nursing*, metallurgical technology, automotive technology**, mechanical technology**

Highline College,
Midway 98031
Public. M. A. Allan, pres.
David B. Story, dir. of occ. ed.
Total enrolment: 3,200
Admission: High-school graduation or 18 yrs. of age; special requirements for certain programs
Data processing technology**, construction technology**, civil technology**, nursing, engineering science technology**, graphic arts technology**, metallurgical technology**, drafting technology**, mechanical and production engineering technology**, welding technician**, law enforcement, quality control*

J. M. Perry Institute, Industries-Technology,
2011 Washington Ave., Yakima 98902
Private. H. S. Buckman, dir.
Total enrolment: 150
Technician enrolment: 150
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Electrical technology, industrial electronic technology, instrumentation technology, airconditioning, heating, and refrigeration technology, automotive technology, machine technology

Lower Columbia College,
Longview 98632
Public. James Hicken, dir. of voc.-tech. ed.
William J. Putas, chm. of tech. div.
Total enrolment: 1,906
Technician enrolment: 224
Accreditation: NWA
Admission: High-school graduation or 18 yrs. of age; tests and prerequisites for tech. curriculum
Data processing technology, industrial electronic technology, nursing, forest products technology, automotive technology, machine tool technology, me-

chanical and production engineering technology

Olympia Vocational-Technical Institute, 317 E. Fourth Ave., Olympia 98501
Public. Robert J. Boyden, dir.
Total enrolment: 200
Technician enrolment: 86
Accreditation: State Ed. Dept.
Admission: 18 yrs. of age, high-school graduation, or recommended by high-school principal
Data processing technology, civil technology, electronics technology, dental technology, medical technology

Olympic College, 16th & Chester, Bremerton 98310
Public. James D. Park, pres.
Joseph P. Irons, dir., voc.-tech. ed.
Total enrolment: 4,100
Technician enrolment: 1,900
Accreditation: NWA, State Ed. Dept.
Admission: High-school graduation or equivalent; special status for adults
Commercial design technology*, data processing technology**, architectural drafting technology*, civil technology**, structural engineering and design technology**, surveying technology, computer technology**, electrical technology*, electro-mechanical technology*, electro-mechanical drafting technology*, electronic communications technology**, electronic drafting technology*, electronics technology, industrial electronic technology*, nursing**, chemical technology*, graphic arts technology**, instrumentation technology*, metallurgical technology*, nucleonics*, automotive technology*, combustion power technology*, drafting technology*, machine tool technology**, mechanical and production engineering technology*, mechanical drafting technology*, mechanical technology*, welding technology**, law enforcement**

Peninsula College, Port Angeles 98362
Public. E. John Maier, pres.
Floyd F. Young, adm. asst.
Total enrolment: 870
Technician enrolment: 70
Accreditation: NWA
Admission: High-school graduation
Nursing, automotive technology, fisheries technology

St. Joseph Hospital, 1812 S. Eye St., Tacoma 98401
Private. Sister M. Emmanuel, dean
Total enrolment: 18
Technician enrolment: 5
Accreditation: Amer. Assoc. Medical Records Lib.
Admission: High-school graduation—acceptance by Tacoma Community College
Medical records technology, X-ray technology

Seattle Community College, 1625 Broadway, Seattle 98122
Public. Ed K. Erickson, pres.
C. A. Bradley, dir., voc.-tech. ed.
Total enrolment: 14,000
Technician enrolment: 360
Accreditation: NWA, State Ed. Dept.
Admission: Varies with curriculum selected
Commercial design technology**, data processing technology**, publications technology**, architectural drafting technology**, aviation electronics technology**, electrical technology**, electronic communications technology**, electronic drafting technology**, electronics technology**, industrial electronic technology**, microminiaturization technology**, graphic arts technology**, instrumentation technology**, lithographic technology**, auto-diesel technology**, automotive technology**, aviation maintenance technology**, industrial drafting and design technology**, mechanical technology**, fire-protection technology*

Shoreline Community College, 16101 Greenwood Ave. N., Seattle 98133
Public. Dan A. White, dir., voc.-tech. ed.
Total enrolment: 2,000
Technician enrolment: 325
Accreditation: NWA, State Ed. Dept.
Admission: High-school graduation or 18 yrs. of age
Civil technology, electronics technology**, medical records technology, nursing, instrumentation technology, airconditioning, heating, and refrigeration technology*, mechanical technology, forestry technology, physical oceanographic technology, marine biological technology, quality control technology*, law enforcement**

Skagit Valley College, Mount Vernon 98273
Public. Norwood M. Cole, pres.
Walter Robert, dir. voc.-tech. ed.
Total enrolment: 2,201
Technician enrolment: 650
Accreditation: NWA
Admission: High-school graduation
Agri-business technology*, commercial design technology*, architectural drafting technology, building construction technology*, civil technology, highway technology*, surveying technology*, electronic communications technology, electronic drafting technology*, electronics technology, industrial electronic technology*, medical laboratory technology*, chemical technology*, engineering science technology*, instrumentation technology*, auto-diesel technology, automotive technology, combustion power technology, internal combustion (engineering) technology, aviation technology*, nursing

Spokane Community College, E. 3403 Mission Ave., Spokane 99202
Public. Walter S. Johnson, pres.
Total enrolment: 2,902
Technician enrolment: 1,226
Accreditation: State Ed. Dept.
Admission: Aptitude tests
Data processing technology, statistical technology, architectural drafting technology, architectural engineering technology, building construction technology, construction technology, structural engineering and design technology, aviation electronics technology, computer technology, commercial broadcast technology, electrical technology, electromechanical technology, electronic drafting technology, electronics technology, industrial electronic technology, microminiaturization technology, dental technology, medical records technology, medical technology, nursing, instrumentation technology, airconditioning, heating, and refrigeration technology, auto-diesel technology, automotive technology, combustion power technology, internal combustion (engineering) technology, aeronautical and astronautical (engineering) technology, aviation maintenance technology, aviation technology, design technology, drafting technology, industrial drafting and design technology, industrial illustration technology, industrial technology, machine tool technology, mechanical and production engineering technology, mechanical drafting technology, mechanical technology, fire-protection technology, food-processing technology

Tacoma Vocational-Technical Institute, 1101 S. Yakima Ave., Tacoma 98405
Public. L. H. Bates, adm. dir. of voc.-tech. ed.
Total enrolment: 12,457
Technician enrolment: 1,210
Accreditation: State Ed. Dept.
Data processing technology**, architectural drafting technology**, architectural engineering technology**, building consruction technology**, construction technology**, civil technology**, highway technology**, structural engineering and design technology**, surveying technology**, computer technology**, commercial broadcast technology**, elec-

trical technology**, electro-mechanical drafting technology**, electro-mechanical technology**, electronic communications technology**, electronic drafting technology**, electronics technology**, industrial electronic technology**, dental assistants*, nursing*, instrumentation technology**, auto-diesel technology**, automotive technology**, design technology**, drafting technology**, industrial drafting and design technology**, industrial illustration technology**, machine tool technology**, mechanical and production engineering technology**, mechanical drafting technology**, mechanical technology**, fire-protection technology**, food-processing technology**

YAKIMA VALLEY COLLEGE, 16th Ave. & Nob Hill Blvd., Yakima 98902
Public. Omar Scheidt, pres.
Orville D. Carnahan, dir. of voc.-tech. ed.
Total enrolment: 3,000
Technician enrolment: 400
Accreditation: NWA
Admission: High-school graduation or equivalent
Agri-business technology*, agricultural engineering technology**, soils technology*, data processing technology**, publications technology**, building construction technology*, construction technology*, civil technology*, highway technology*, surveying technology*, computer technology*, commercial broadcast technology*, electronic communications technology*, electronics technology**, medical records technology*, nursing**, forest products technology*, graphic arts technology*, air-conditioning, heating, and refrigeration technology*, automotive technology**, aviation technology**

WEST VIRGINIA

BERKELEY AREA VOCATIONAL TECHNICAL SCHOOL, 515 W. Martin St., Martinsburg 25401
Public. L. S. McKinney, dir.
Total enrolment: 100
Technician enrolment: 40
Accreditation: State Ed. Dept.
Admission: High-school graduation, aptitude tests
Data processing technology**, electronics technology**

BLUEFIELD STATE COLLEGE, Bluefield
Public. L. B. Allen, pres.
Total enrolment: 1,200
Technician enrolment: 200
Accreditation: NCA
Architectural engineering technology, electronic engineering technology, civil engineering technology, mechanical engineering technology

FAIRMONT SENIOR HIGH SCHOOL, 8th St., Fairmont
Public. E. W. Malcolm, prin.
Total enrolment: 1,250
Technician enrolment: 31
Accreditation: NCA, State Ed. Dept.
Admission: 1 yr. of algebra, IQ 110 or more, pass entrance exam
Electronics technology

HUNTINGTON EAST HIGH VOCATIONAL-TECHNICAL SCHOOL, 2800 Fifth Ave., Huntington
Public: D. W. Fox, dir.
Total enrolment: 300
Technician enrolment: 64
Accreditation: NCA, State Ed. Dept.
Admission: High-school graduation
Electronics technology, industrial electronic technology

LOGAN SENIOR HIGH SCHOOL, P. O. Box 1271, Logan 25601
Public. Charles R. Harris, prin.
George Walker, tech. ed. chm.
Total enrolment: 2,077
Technician enrolment: 40
Accreditation: NCA, State Ed. Dept.
Admission: Entrance exam, IQ 110 or above, algebra I and II completed, electronic drafting
Electronic communications technology, electronic drafting technology, electronics technology, industrial electronic technology

MARION COUNTY VOCATIONAL TECHNICAL CENTER, 414 Jackson St., Fairmont 26554
Public. Harold B. Lawson, dir.
Total enrolment: 208
Technician enrolment: 136
Electrical technology, electronics technology, industrial electronic technology, automotive technology

MCKINLEY VOCATIONAL AND TECHNICAL CENTER, 17 & Jacob St., Wheeling
Public. Roy E. Potter, dir.
Total enrolment: 700
Technician enrolment: 100
Accreditation: State Ed. Dept.
Admission: High-school graduation
Data processing technology, computer technology, electronics technology, industrial drafting and design technology

PARKERSBURG HIGH SCHOOL, Vocational Division, 2101 Dudley Ave., Parkersburg 26101
Public. H. W. Calendine, dir.
Total enrolment: 3,300
Technician enrolment: 105
Accreditation: State Ed. Dept.
Admission: Completed 10th grade, tested, and counseled
Data processing technology**

RALEIGH COUNTY VOCATIONAL TECHNICAL CENTER, 229 Second St., Beckley 25801
Public. James D. Robinson, dir.
Jimmie L. Pennington, asst. dir.
Total enrolment: 400
Technician enrolment: 55
Accreditation: State Ed. Dept.
Admission: High-school graduation with math background
Electronics technology

ST. ALBANS HIGH SCHOOL, St. Albans
Public. B. Liggett, prin.
Total enrolment: 1,360
Technician enrolment: 36
Accreditation: NCA
Chemical technology

WEST VIRGINIA INSTITUTE OF TECHNOLOGY, THE COMMUNITY & TECHNICAL COLLEGE, Montgomery 25136
Public. L. Wood Buell, dir.
Total enrolment: 2,000
Technician enrolment: 250
Accreditation: NCA
Admission: High-school graduation; upper ½ of class for out-of-state students
Civil engineering technology, electrical engineering technology, mechanical engineering technology, drafting and design engineering technology

WEST VIRGINIA STATE COLLEGE, Institute 25112
Public. W. J. L. Wallace, pres.
Mark Friedlander, chm., dept. of ind. tech.
Total enrolment: 3,146
Technician enrolment: 200
Accreditation: NCA
Admission: High-school graduation, upper 50% of graduating class
Building construction, printing, mechanical architectural drawing, electricity technology, auto mechanics, machine shop

WEST VIRGINIA UNIVERSITY, PARKERSBURG CENTER, 3108 Emerson Ave., Parkersburg 26101
Public. B. L. Coffindaffer, dean
Nathan L. Breed, Jr., dir.
Total enrolment: 420
Accreditation: NCA
Data processing technology, nursing, chemical technology, mechanical technology, commercial art

WISCONSIN

Acme Institute of Technology,
904A S. 8th St., Manitowoc 54220
4701 N. 76th St., Milwaukee 53218
Private. William W. Warren, dir.
Total enrolment: 76
Technician enrolment: 76
Accreditation: NATTS
Admission: High-school graduation, ability to profit from instruction
Mechanical and production engineering technology, mechanical drafting technology, mechanical technology, tool design engineering technology, die design engineering technology

Appleton Vocational, Technical, and Adult School, 105 E. Kimball St., Appleton 54911
Public. Milton J. Ness, dir.
Total enrolment: 2,180
Technician enrolment: 330
Accreditation: State Ed. Dept.
Admission: High-school graduation plus entrance exam
Agri-business technology, data processing technology, architectural drafting technology, electrical technology, electromechanical drafting technology, electromechanical technology, electronics technology, industrial electronic technology, graphic arts technology, airconditioning, heating, and refrigeration technology, automotive technology, drafting technology, machine tool technology

Beloit School of Vocational, Technical, and Adult Education, 1149 Fourth St., Beloit 53511
Public. Richard A. Oster, dir.
Electrical technology*, electronic communications technology, electronics technology, industrial electronic technology, drafting technology, hydraulics technology*, industrial drafting and design technology, machine tool technology*, mechanical drafting technology, police recruit training*, chem-physics technologies

Coleman Technical Institute, 6th St., Vine to Pine, La Crosse 54601
Public. Charles G. Richardson, dir.
Victor Larsen, tech. ed. chm.
Total enrolment: 897
Technician enrolment: 320
Accreditation: State Ed. Dept.
Admission: High-school graduation
Agri-business technology**, commercial design technology**, data processing technology**, computer technology*, industrial electronic technology**, dental technology**, medical technology**, nursing**, graphic arts technology**, airconditioning, heating, and refrigeration technology**, auto-diesel technology**, automotive technology**, industrial drafting and design technology**

Eau Claire Vocational, Technical, and Adult School, 1300 First Ave., Eau Claire 54701
Public. Cecil W. Beede, dir.
Lyle Wandrei, tech. ed. supv.
Total enrolment: 795
Technician enrolment: 476
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Electrical technology, industrial electronic technology, airconditioning, heating, and refrigeration technology, drafting technology, machine tool technology

Fond du Lac Vocational, Technical, and Adult School, 805 E. Johnson St., Fond du Lac 54935
Public. H. J. Van Valkenburg, dir.
Charles W. Winegarner, asst. dir.
Total enrolment: 2,900
Technician enrolment: 760
Accreditation: State Ed. Dept.
Admission: High-school graduation
Agri-business technology, design technology, machine tool technology, mechanical drafting technology, mechanical technology, engine technology, machine tool programing technology, food-processing technology, production technology, marketing

Green Bay School of Vocational, Technical, and Adult Education, 200 S. Broadway, Green Bay 54303
Public. K. W. Haubenschild, dir.
Dennis P. Humphreys, trade and industry coord.
Total enrolment: 5,000
Technician enrolment: 200
Accreditation: State Ed. Dept.
Admission: High-school graduation
Data processing technology, architectural drafting technology, building construction technology, civil technology, highway technology*, structural engineering and design technology, surveying technology*, computer technology, electrical technology*, industrial electronic technology*, dental technology*, medical technology*, nursing*, automotive technology*, design technology, hydraulics technology*, machine tool technology*, mechanical drafting technology, fire-protection technology*

Janesville Vocational, Technical, and Adult School, 527 S. Franklin St., Janesville 53545
Public. O. L. Johnson, dir.
Total enrolment: 3,300
Technician enrolment: 150
Automotive technology**, aviation technology, industrial drafting and design technology**, machine tool technology**

Kenosha Technical Institute, 3520 30th Ave., Kenosha 53140
Public. Keith Stoehr, dir.
Ted D. Sather, supv.
Total enrolment: 2,500
Technician enrolment: 900
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, ACT
Automotive technology, data processing technology, fluid power, horticulture, industrial production, law enforcement, mechanical design, retail marketing

Madison Vocational, Technical, and Adult Schools, 211 N. Carroll St., Madison 53703
Public. Norman P. Mitby, dir.
Alun Thomas, asst. supv., trade-tech. ed.
Total enrolment: 13,000
Technician enrolment: 1,000
Accreditation: State Ed. Dept.
Admission: High-school graduation, C average, average intelligence or above
Data processing technology**, architectural drafting technology**, civil technology**, highway technology**, structural technology**, surveying technology**, electronic communications technology**, electronics technology**, chemical technology, instrumentation technology, metallurgical technology, automotive technology**, mechanical drafting technology**, mechanical technology**

Marathon County Technical Institute, P. O. Box 750, River Drive, Wausau 54401
Public. Lawrence B. Hoyt, dir.
Total enrolment: 850
Technician enrolment: 600
Accreditation: State Ed. Dept.
Admission: High-school graduation
Agri-business technology, agricultural mechanics, data processing technology, architectural drafting technology, electronics technology, graphic arts technology, metallurgical technology, automotive technology, machine tool technology, mechanical drafting technology

Milwaukee Institute of Technology, 1015 N. Sixth St., Milwaukee 53203
Public. George A. Parkinson, dir.
Alfon D. Mathison, asst. dir.
Total enrolment: 8,723
Technician enrolment: 4,748
Accreditation: NCA
Admission: High-school graduation, entrance exam

Data processing technology**, architectural technology**, construction technology**, civil technology**, highway technology**, structural engineering and design technology**, computer technology**, commercial broadcast technology, electrical technology**, electronic communications technology, electronics technology**, dental technology, nursing, chemical technology**, graphic arts technology**, instrumentation technology**, lithographic technology**, metallurgical technology, airconditioning, heating, and refrigeration technology**, diesel technology, automotive technology, design technology, drafting technology, fluid power (engineering) technology**, hydraulics technology, industrial drafting and design technology, industrial illustration technology, machine tool technology**, mechanical and production engineering technology, mechanical drafting technology, mechanical technology, fire-protection technology, photography, photo instrumentation, police science technology, dental assistant, medical assistant, restaurant and hotel cookery

Milwaukee School of Engineering, 1025 N. Milwaukee St., Milwaukee 53201
Private. K. O. Werwath, pres.
Total enrolment: 1,662
Technician enrolment: 581
Admission: High-school graduation or equivalent, units in math and science
Computer engineering technology†, electrical power engineering technology†, electronic communications engineering technology†, metallurgical engineering technology†, airconditioning engineering technology†, internal combustion engines engineering technology, fluid power engineering technology, industrial engineering technology†, chemical production engineering technology

Oshkosh Technical Institute, 228 Algoma Blvd., Oshkosh 54901
Public. William M. Sirek, dir.
Stanley Spanbauer, tech. ed. chm.
Total enrolment: 4,000
Technician enrolment: 400
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Agri-business technology, conservation technology, electrical technology*, electronics technology**, industrial electronic technology*, nursing*, metallurgical technology, auto-diesel technology*, automotive technology**, design technology, fluid power (engineering) technology*, industrial drafting and design technology*, industrial illustration technology*, machine tool technology*, mechanical and production engineering technology*, mechanical drafting technology*, mechanical technology*, marketing

Racine Vocational, Technical, and Adult School, 800 Center St., Racine 53403
Public. Howard M. Heigl, dir.
Earl F. Jaeger, chm.
Total enrolment: 4,940
Technician enrolment: 400
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent, 1 yr. high-school algebra, 1 yr. chemistry or physics
Electronic data processing technology*. electrical technology*, electronics technology**, industrial electronic technology**, industrial technology**, mechanical technology**, metallurgical technology*, instrumentation*, building construction technology**, electronic engineering technology**, hydraulics technology*, mechanical and production engineering technology**

Rice Lake Vocational, Technical, and Adult School, 34 S. Wilson Ave., Rice Lake 54868
Public. James W. Covey, dir.
Total enrolment: 675
Technician enrolment: 73
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent and standardized tests
Architectural drafting technology, design technology, machine tool technology

Sheboygan School of Vocational, Technical, and Adult Education, 843 Jefferson Ave., Sheboygan 53081
Public. Frederick J. Nierode, dir.
Edward Falck, instructional supv.
Total enrolment: 3,500
Technician enrolment: 225
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Data processing technology*, electrical technology*, electronic communications technology*, industrial electronic technology, nursing*, medical assistant, graphic arts technology, metallurgical technology*, automotive technology, design technology*, drafting technology*, industrial drafting and design technology*, machine tool technology, mechanical technology

South Milwaukee Vocational, Technical, and Adult Education, 1228 Michigan Ave., South Milwaukee 53172
Public. Joseph Longo, dir.
Bernard P. Ruetten, coord.
Total enrolment: 1,700
Technician enrolment: 92
Accreditation: State Ed. Dept.
Admission: High-school graduation
Architectural drafting technology*, electrical technology*, drafting technology*, mechanical technology*

Superior Vocational, Technical, and Adult School, 805 Belknap St., Superior 54880
Public. Sam L. Lavine, dir.
Richard M. Parish, supv.
Total enrolment: 1,972
Technician enrolment: 94
Accreditation: State Ed. Dept.
Admission: High-school graduation, pre-entrance tests
Electronics technology, design technology, nursing

Two Rivers Vocational, Technical, and Adult Schools, E. Park St., Two Rivers 54241
Public. Conrad Mayer, dir.
W. Neverdahl, curr. coord.
Total enrolment: 1,328
Technician enrolment: 164
Accreditation: State Ed. Dept.
Admission: High-school graduation or equivalent
Civil technology, electrical technology, electro-mechanical technology, electronic communications technology, electronics technology, nursing assistants*, automotive technology, hydraulics technology*, mechanical drafting technology*, welding technology*, machine woodworking technology*

Waukesha Vocational, Technical, and Adult School, Waukesha
Public. A. J. Natalizio, dir.
Total enrolment: 3,200
Accreditation: State Ed. Dept.
Admission: High-school graduation
Drafting technology, architectural drafting technology, electrical technology, electronics technology, drafting and tool design, machine drafting and design, machine tool technology, mechanical technology

West Allis Vocational, Technical, and Adult Education, 1216 S. 71st St., West Allis 53214
Public. Victor H. Schmitt, dir.
Technician enrolment: 100-200
Admission: High-school graduation
Electronics technology**, automotive technology*, drafting technology, hydraulics technology*, mechanical technology

Wisconsin Rapids Vocational, Technical, and Adult School,

431 Lincoln St., Wisconsin Rapids 54494
Public. E. C. Everetts, dir.
Total enrolment: 2,226
Technician enrolment: 170
Accreditation: State Ed. Dept.
Civil technology, instrumentation technology, automotive technology, machine tool technology, mechanical design technology, marketing, auto body mechanics, welding

WYOMING

Casper College, 125 College Dr., Casper 82601
Public. Tilghman H. Aley, pres.
Ernest V. Sones, tech. ed. chm.
Total enrolment: 3,586
Technician enrolment: 107
Accreditation: NCA
Admission: High-school graduation or GED
Data processing technology, industrial electronic technology, automotive technology, drafting technology

Directory of Federal and State Officials of Technician Education

THIS directory of federal and state officials in charge of technician education has been carefully compiled from authoritative sources. Thanks are due the state directors of vocational and technical education for their cooperation.

This directory shows the person who is responsible for the technician training programs in each state, even though his title may not include the words "technical education." In many states technician education is administered under the vocational education department or the trade and industrial education department. Other states have a separate department for technician education.

Guidance counselors and other persons desiring specific information on technician education in the various states should find this directory valuable.

U. S. OFFICE OF EDUCATION
Division of Vocational and Technical Education
Washington, D. C. 20202
WALTER J. BROOKING, Technical Education Specialist
ALEXANDER C. DUCAT, Technical Education Specialist

ALABAMA
H. F. WORTHY, Supervisor
Trade and Industrial Education
State Department of Education
Montgomery, Alabama 36104

ALASKA
RALPH W. MATTHEWS
Acting Assistant Director
Division of Vocational Education
Department of Education
Pouch F., Alaska Office Building
Juneau, Alaska 99801

ARIZONA
R. DEAN FREY, Supervisor
Technical Education
State Department of Vocational Education
412 Arizona State Building
Phoenix, Arizona 85007

ARKANSAS
J. C. RUPPERT, Director
Trade and Industrial Education
State Department of Education
Little Rock, Arkansas 72201

CALIFORNIA
WESLEY P. SMITH, Director
Vocational Education
State Department of Education
721 Capitol Mall
Sacramento, California 95814

COLORADO
LLOYD LAWSON, Director
Division of Technical and Special Education
State Board for Vocational Education
32 State Services Building
Denver, Colorado 80203

CONNECTICUT
LUCIAN LOMBARDI, Chief
Bureau of Technical Institutes
State Department of Education
P. O. Box 2219
Hartford, Connecticut 06115

DELAWARE
PAUL M. HODGSON, Assistant State Superintendent
Vocational-Technical Education and Extended Services
State Department of Public Instruction
P. O. Box 697
Dover, Delaware 19901

DISTRICT OF COLUMBIA
ADDISON S. HOBBS, Supervisor
Technical Education
Wormley Administration Annex No. 6
3331 Prospect Street, N. W.
Washington, D. C. 20007

FLORIDA
THOMAS W. STRICKLAND, Director
Technical Education

Division of Vocational, Technical, and Adult Education
State Department of Education
Tallahassee, Florida 32304

GEORGIA
JOHN H. LLOYD, JR., Supervisor
Technical Education
State Department of Education
Atlanta, Georgia 30303

HAWAII
ALBERT J. FEIRER, Director
Division of Vocational, Post-High, and Adult Education
State Department of Education
P. O. Box 2360
Honolulu, Hawaii 96804

IDAHO
JOHN A. McDANIEL, Supervisor
Trade and Technical Education
State Board for Vocational Education
518 Front Street
Boise, Idaho 83702

ILLINOIS
WALTER J. BARTZ, Coordinator
Program Implementation and Supervision
Board of Vocational Education and Rehabilitation
405 Centennial Building
Springfield, Illinois 62706

INDIANA
C. E. HIGHLEN, Supervisor
Trade and Industrial Education
State Department of Education
600 Old Trails Building
Indianapolis, Indiana 46204

IOWA
HARLAN E. GIESE, Chief
Technical, and Trade and Industrial Education
Division of Vocational Education
217 Seventh Street
Des Moines, Iowa 50309

KANSAS
JOHN E. SNYDER, Director and Executive Officer
State Board for Vocational Education
State Office Building
Topeka, Kansas 66612

KENTUCKY
EDGAR VAUGHAN, Supervisor
Technical Education
Bureau of Vocational Education
State Department of Education
Frankfort, Kentucky 40601

LOUISIANA
H. P. VOLENTINE, Acting Director
Trade and Industrial Education
Division of Vocational Education
State Department of Education
2655 Plank Road
Baton Rouge, Louisiana 70804

MAINE
JOHN A. SNELL, Chief
Bureau of Vocational Education
State Department of Education
Augusta, Maine 04330

MARYLAND
JAMES L. REID, Director
Vocational Education
State Department of Education
Baltimore, Maryland 21201

MASSACHUSETTS
WALTER J. MARKHAM, Director
Vocational Education
State Department of Education
182 Tremont Street
Boston, Massachusetts 02116

MICHIGAN
J. J. HARRIS, Supervisor
Trade and Industrial Education
Division of Vocational Education
State Department of Education
P. O. Box 928
Lansing, Michigan 48904

MINNESOTA
ROBERT K. ANDERSON, Supervisor
Technical Education
Vocational-Technical Education
Centennial Building
St. Paul, Minnesota 55101

MISSISSIPPI
A. P. FATHERREE, Director
Vocational Education
State Department of Education
P. O. Box 771
Jackson, Mississippi 39205

MISSOURI
WILLIAM CAWLFIELD, Supervisor
Technical Education
State Department of Education
Jefferson City, Missouri 65101

MONTANA
CLARENCE R. ANTHONY, Supervisor
Technical Education
State Department of Public Instruction
Helena, Montana 59601

NEBRASKA
CECIL E. STANLEY, Director
Vocational Education
State Department of Education
Lincoln, Nebraska 68509

NEVADA
VERNON L. HOWARD, Supervisor
Technical Education
State Department of Education
Carson City, Nevada 89701

NEW HAMPSHIRE
NEAL D. ANDREW, Chief
Division of Vocational-Technical Education
State Department of Education
Stickney Avenue
Concord, New Hampshire 03301

CHARLES H. GREEN, Director
Post-Secondary Vocational-Technical Education
State Department of Education
Stickney Avenue
Concord, New Hampshire 03301

NEW JERSEY
NICHOLAS FRIGIOLA, Director
Technical Institutes and Community College Technical Programs
State Department of Education
Vocational Division
225 W. State Street
Trenton, New Jersey 08625

NEW MEXICO
LEE PALMER, Supervisor
Trade and Industrial Division
State Department of Education
139 South Castillo
Santa Fe, New Mexico 87501

NEW YORK
NELSON J. MURBACH, Chief
Bureau of Trade and Technical Education
State Department of Education
Albany, New York 12224

NORTH CAROLINA
A. J. BEVACQUA, Educational Director
Vocational-Technical Division
State Department of Community Colleges
Raleigh, North Carolina 27602

NORTH DAKOTA
GIL MOWERS, Supervisor
Trade and Industrial Education
Box A
State School of Science
Wahpeton, North Dakota 58075

OHIO
D. R. PURKEY, Supervisor
Technical Education and Construction
Division of Vocational Education
State Department of Education
Columbus, Ohio 43215

OKLAHOMA
BILL POWERS, Assistant Coordinator
Area Vocational-Technical Schools
State Board for Vocational Education
1515 West Sixth Avenue
Stillwater, Oklahoma 74074

OREGON
WILLIAM G. LOOMIS, Director
Vocational Education
Division of Community Colleges and Vocational Education
305 Public Service Building
Salem, Oregon 97310

PENNSYLVANIA
ROBERT JACOBY, Supervisor
Technical and Industrial Education
State Department of Public Instruction
Harrisburg, Pennsylvania 17126

PUERTO RICO
LUIS R. ORTIZ, Director
Technical and Post-Secondary Education Program
P. O. Box 818
Hato Rey, Puerto Rico 00919

RHODE ISLAND
THOMAS H. SANDHAM, JR.
Associate Commissioner
Vocational-Technical Education
State Department of Education
Providence, Rhode Island 02908

SOUTH CAROLINA
M. B. ROBINSON, Supervisor
Trade and Industrial Education
Rutledge Office Building
Columbia, South Carolina 29201

SOUTH DAKOTA
ROY J. ZIEGLER, Supervisor
Trade and Industrial Education, MDTA
Health Occupations and Technical Education
Division of Vocational Education
State Department of Public Instruction
Pierre, South Dakota 57501

TENNESSEE
G. E. FREEMAN, Director
Technical Education
State Department of Education
205 Cordell Hull Building
Nashville, Tennessee 37219

TEXAS
JOE D. GODSEY, Acting Director
Junior College Program Development
Texas Education Agency
Capitol Station
Austin, Texas 78711

UTAH
WALTER E. ULRICH, Specialist
Trade and Technical Education
State Board for Vocational Education
1300 University Club Building
136 East South Temple
Salt Lake City, Utah 84111

VERMONT
RICHARD F. SARGENT, Consultant
Trade and Industrial Education
State Department of Education
Montpelier, Vermont 05602

VIRGINIA
L. A. HILL, Coordinator
Vocational Education
State Department of Education
Richmond, Virginia 23216

WASHINGTON
FRANK H. WIMER, Director
Trade and Technical Education
State Board for Vocational Education
P. O. Box 248
Olympia, Washington 98501

WEST VIRGINIA
J. JACKSON TOWNSEND, Supervisor
Vocational Industrial Education
Bureau of Vocational, Technical, and Adult Education
State Department of Education
Charleston, West Virginia 25305

WISCONSIN
ARNOLD POTTHAST, Supervisor
Technical Education
State Board of Vocational and Adult Education
Room 720, 1 West Wilson Street
Madison, Wisconsin 53702

WYOMING
CHARLES A. KLINE, Director
Vocational-Technical Education
State Department of Education
Capitol Building
Cheyenne, Wyoming 82001

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Federal Legislative Developments

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IN sustaining the momentum built up during preceding years, the 89th Congress proved itself a capable trail-blazer on the technical-education front. Although the preceding Congress will go down in history as the creator of such legislative landmarks as the Vocational Education Act and the Higher Education Facilities Act, the 89th assured itself of a prestigious place in posterity by producing the likes of the Allied Health Professions Training Act, the Higher Education Act, the National Vocational Student Loan Insurance Act, and the National Technical Institute for the Deaf Act—all of which contain major technician-training provisions.

Moreover, the 89th contributed additional scope to VEA '63 and HEFA, and increased the appropriations used to implement these laws in the teaching laboratories, classrooms, and shops. In all, the record is one of lofty significance to technical education.

Here, in capsule form, is a review of each of the important new measures, each representing a major addition to the legislation described in previous editions of the TECHNICIAN EDUCATION YEARBOOK:

HEALTH PROFESSIONS PERSONNEL TRAINING (PL 89-751)

In the spring of 1966, the Allied Health Professions Personnel Training Act was introduced by Rep. Harley O. Staggers (D-W.Va.), new chairman of the House Interstate and Foreign Commerce Committee, which handles all health-related legislation. As set forth by its authors, the bill's intent is to expand the supply of technicians in the medical, optometric, dental, and other related fields, by offering aid to training institutions, fellowships for teachers of technicians, and loans to students.

In its enacted form, the legislation authorized the following appropriations (in millions):

	Fiscal Year 1967	*Fiscal Year 1968*	*Fiscal Year 1969*
Construction grants	$ 3.0	$ 9.0	$13.5
Program improvement	9.0	13.0	17.0
Fellowship grants	1.5	2.5	3.5
Program development	0.7	2.2	3.0

With respect to student loans, the House Committee authorized an initial appropriation of $10 million to be added to funds already available for loans to students of medicine, dentistry, and other health professions; the additional funds were to enable the program to expand to serve technician students in health-related fields. This level of underwriting was maintained in the bill's passage through Congress, although a lengthy conflict resulted in a change in the method of financing such loans. As finally enacted, the bill provides for the loan of federal funds to enable institutions to start or expand their student loan funds, but with the proviso that these institutional obligations would then be sold to private investors.

Placed under the jurisdictional wing of the Surgeon

General of the U. S. Public Health Service, the new law specifically cites only medical technology, optometric technology, and dental hygiene, but allows the Surgeon General to designate other types of health technician training eligible for aid under the legislation. The first regulations issued by the Surgeon General specified as eligible academic programs those preparing X-ray technicians, medical records technicians, inhalation therapy technicians, dental laboratory technicians, dental hygienists, dental assistants, ophthalmic assistants, occupational therapy assistants, and food service assistants.

Qualifying for aid under the law are "training centers for allied health professions," which may be public or private, nonprofit community colleges, hospitals, or other institutions offering instruction leading to an associate or baccalaureate degree, or "designed to prepare the student to work as a technician in a health occupation specified by regulations of the Surgeon General."

To qualify for construction grants, otherwise eligible institutions must enrol at least 20 students and expand at least 5 percent. These grants can underwrite up to two-thirds of construction costs. Training institutions are also eligible for grants to broaden their curricular offerings and improve their quality, provided they increase enrolments and do not diminish their own financial support of these training programs. These grants are $5,000 per curriculum per year, plus $500 for each full-time student per year.

Traineeships authorized by the new law are awarded through institutions preparing teachers, supervisors, or administrators in the health technician fields. As is true of other federal fellowship programs, these awards cover tuition, fees, stipends, and allowances, including travel costs. The legislation also authorizes special grants for the development, demonstration, or evaluation of new curriculums.

Despite the liberal pattern of authorizations advanced by the law, Congress voted only about $4 million for the first fiscal year of operations, leaving to the Surgeon General the allocation of this sum among the various aspects of the programs through mid-1967. The initial funds were allocated as follows: $3.285 million for curriculum improvement grants, $250,000 for fellowships, $200,000 for development of new training methods, and $265,000 for federal administrative costs. For the 1968 fiscal year, the President requested Congress to appropriate $9.75 million for curriculum improvement grants, $1.5 million for fellowships, and $1 million for development of new methods and programs. Thus the program is starting at a lower level than was authorized by Congress.

The program is administered by the Division of Health Manpower Educational Services, Bureau of Health Manpower, U.S. Public Health Service, Department of Health, Education, and Welfare, Arlington, Virginia 22203.

AID TO POST-HIGH-SCHOOL INSTITUTIONS (PL 89-329)

The Higher Education Act, a measure which authorized several new sources of federal assistance for community colleges and technical institutes, occupied the attention of the 89th Congress throughout its initial session. Controversy over the bill's original form led Rep. Edith Green (D-Ore.) to draft a new version which ultimately won acceptance. Of special interest to technician educators are the following provisions:

Aid for Libraries

In this bill, Congress for the first time made funds available to improve libraries and instructional equipment of nonprofit community colleges and technical institutes.

Three-fourths of the amount authorized for college library assistance is earmarked for grants to enable institutions to acquire books, periodicals, documents, audiovisual materials, and the like for their libraries. These grants, which must be matched dollar-for-dollar by the recipient institution, cannot exceed $5,000 annually for each institution or branch, and the institution must not reduce its own purchases of these materials. After each eligible institution has received a $5,000 grant, funds are available for supplemental grants to "needy" institutions at the rate of $10 per full-time student. Supplemental grants need not be matched.

The legislation also authorizes other library grants and funds for training librarians. For the 1967, 1968, and 1969 fiscal years, the law authorizes appropriation of $50 million annually for aid to college libraries. Congress voted $10 million for fiscal year 1967 and $25 million for fiscal year 1968. With these funds, some 1,800 grants were made in the first year of the program and about 2,000 in the second. The number of grant awards is expected to be somewhat higher in fiscal year 1968, which ends June 30, 1968.

Qualified institutions may apply for this form of federal assistance to the Division of Library Services and Educational Facilities, Bureau of Adult and Vocational Education, U.S. Office of Education, Washington, D.C. 20202.

Aid for Instructional and Audiovisual Equipment

When the Higher Education Act, as enacted by the House of Representatives, came before the Senate Committee on Labor and Public Welfare, the Committee added a provision authorizing aid for undergraduate instructional equipment which was accepted by the Senate and subsequently by the House.

The law authorizes grants to enable community colleges and technical institutes to purchase laboratory and audiovisual equipment and printed materials other than textbooks to improve instruction in science, mathematics, foreign languages and English, history, geography, government, humanities, art, and education. Funds are also available for minor remodeling to facilitate use of the new equipment. Appropriations were authorized as follows (in millions):

	Fiscal Year 1966	*Fiscal Year 1967*	*Fiscal Year 1968*
Instructional equipment	$35.0	$50.0	$60.0
Closed-circuit television	2.5	10.0	10.0
State administration	1.0	1.0	1.0

For the 1966 fiscal year, Congress voted a total of $15 million for this program, and $14.5 million was appropriated for the following fiscal year. Nearly 900 institutions received grants in the first year of this program.

This program is administered primarily by the states, to which institutions must apply for grants. The U.S. Office of Education allocates the available funds among the states on the basis of post-high-school enrolments and state per-capita incomes. The states draw up state plans that may assign priorities for grants among otherwise eligible institutions of higher education in the states. The federal share of the individual grants is limited to 50 percent, but it may be as high as 80 percent if the state indicates that a higher ratio is needed to enable specific institutions to improve their libraries and instructional equipment.

Thus, states submit their plans to the U.S. Office of Education for its approval. Project applications are then submitted to the state authorities, which rank them in accordance with their approved criterions and forward them to the U.S. Office of Education. If approved, grant awards are then made directly to the institution by the Division of College Facilities, Bureau of Higher Education, U.S. Office of Education, Washington, D.C. 20202.

Aid for Faculty Training

To train faculty members in the use of new instructional equipment, Congress authorized appropriation of $5 million annually for the 1966-68 fiscal years. Only $2.5 million was voted for this program for the 1967 fiscal year, however. With these funds, the U.S. Office of Education may pay full costs of short-term workshops or summer or academic-year institutes for college teachers or specialists planning to use educational media equipment. Those attending institutes (but not those attending workshops) are eligible for stipends of $75 per week plus $15 per week per dependent.

This program is administered by the Division of College Support, Bureau of Higher Education, U.S. Office of Education, Washington, D.C. 20202, to which institutions may apply for assistance.

Aid for "Developing Institutions" and Faculty

Public Law 89-329 also authorizes federal aid to "developing institutions" of higher education, which are defined as those that "are struggling for survival and are isolated from the main currents of academic life." The statute authorizes $55 million for this program in fiscal year 1966, $30 million in fiscal year 1967, and $55 million in fiscal year 1968. However, Congress appropriated only $5 million for the first year and $30 million for the second.

By law, 22 percent of these funds are reserved for two-year institutions, including those that educate technicians in engineering, mathematical, and scientific fields. Institutions must be accredited by a nationally recognized accrediting agency or association acceptable to the U.S. Commissioner of Education, must admit only high-school graduates or students who have the equivalent of a secondary-school certificate, and must have been in existence for five academic years.

The "developing institutions" provisions of this law also authorize federal support for graduate students and junior faculty members who are asked to teach in these institutions for up to two years. These "national teaching fellowships" carry annual stipends of up to $6,500 plus $400 per dependent. Grants, free of any requirement for matching funds, are also available to enable developing institutions to arrange—with other colleges or business firms—cooperative programs for exchange of faculty or students, fellowships, joint use of laboratories and libraries, or work-study programs.

Eligible institutions may apply for assistance to the Division of College Support, Bureau of Higher Education, U.S. Office of Education, Washington, D.C. 20202. Fellowships are awarded by the U.S. Office of Education to individuals who are nominated by eligible institutions.

Classroom Construction Grants

This Higher Education Act of 1965 also amended the Higher Education Facilities Act of 1963 to liberalize the latter's provisions aiding post-high-school institutions training technicians. (The history of this legislation is set forth in the 1965-66 TECHNICIAN EDUCATION YEARBOOK.)

The new statute raised the amount authorized for undergraduate academic facilities construction grants and administration during fiscal year 1966 from $233 million to $463 million. The following amounts are authorized for subsequent fiscal years: 1967—$482 million; 1968—$735 million; 1969—$943 million. Congress appropriated $233 million for fiscal year 1965, $460 million for fiscal year 1966, and $460 million for fiscal year 1967. These funds are allotted among the states on the basis of a formula stated in the law. (Details are presented in the 1965-66 TECHNICIAN EDUCATION YEARBOOK.)

In addition to increasing the funds for this program, the 1965 legislation also removed the restrictions that previously permitted aid only for construction of facilities for instruction in science, mathematics, engineering, and modern foreign languages or for libraries. Moreover, the new act and subsequent amendments increased the '63 act's requirement that 22 percent of program funds be reserved for two-year institutions to 23 percent for fiscal 1968 and 24 percent for fiscal 1969. Such ratios are subject, however, to a provision which permits the Commissioner of Education to transfer allocations between the four-year institutions and community colleges or technical institutes within a state if the demand in that state is insufficient to utilize the entire amount reserved for either type of institution.

Of additional significance is a change in the '63 act's stipulation that the federal share of construction grant projects was to be 40 percent in the case of public community colleges and technical institutes. The 1965 legislation permitted this percentage to be fixed at less than 40 percent, if the applicable state plan so provided.

Application for these grants is made to state agencies, which assign priorities to eligible projects and recommend the federal share. The U.S. Department of Housing and Urban Development then reviews the engineering aspects of the applications. As this is proceeding, the U.S. Office of Education reviews other aspects of the applications. Projects that meet the approval of both federal agencies and are within the state's allotment of funds are then awarded grants. In Washington, the program is administered by the Division of College Facilities, Bureau of Higher Education, U.S. Office of Education, Washington, D.C. 20202.

Construction Loans

The Division of College Facilities also administers loans to institutions of higher education for construction of academic facilities. Public technician-training institutions are, of course, eligible for these loans, which are administered in much the same way as grants for construction of general-education facilities. For these loans, Congress has voted (in millions):

Fiscal Year	*Authorization*	*Appropriation*
1965	$120	$169*
1966	120	110
1967	200	200
1968	400	
1969	400	

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*Includes carry-over of funds from previous fiscal year.

The 1963 law, which initially authorized this program, fixed the interest rate on these loans by a formula which resulted in a rate of nearly 4 percent in 1965. In that year, however, Congress changed the formula and specified a maximum of 3 percent for the interest rate on these loans. The Participation Sales Act of 1966 subsequently created a revolving fund for these loans, as well as others, and authorized sale to private investors of "participations" in this pool of federal loans. This procedure is expected to permit additional loans without further appropriations.

TECHNICAL INSTITUTE FOR THE DEAF (PL 89-304)

In the spring of 1965, Rep. Hugh L. Carey (D-N.Y.), who has taken special interest in education of handicapped children and adults, introduced a bill to authorize federal support for establishment and support of a residential institution for post-secondary technical training and education of deaf persons, many of whom are unable to attend existing institutions.

Rep. Carey's bill was enacted with remarkable ease. It passed both Houses of Congress without dissent and was signed by the President only nine weeks after being dropped into the House hopper.

The Carey bill contained no limits on the sums that Congress may appropriate annually for the development of the National Technical Institute for the Deaf, which will be located on the grounds of the Rochester (N.Y.) Institute of Technology. Initially, $420,000 was appropriated for this purpose. It is expected that some $13 million will be required annually for the first four years of the new Institute's operation, after which the federal costs will come to about $2 million annually.

The Institute may start accepting students in the fall of 1969 and reach full-scale operations by 1970. Enrolment is expected to reach 600, with a freshman class of 200. Students, who will be accepted from all parts of the nation, will pay no tuition.

VO-TECH STUDENT LOAN INSURANCE (PL 89-287)

In drafting this bill authorizing federal insurance of loans to technician-training and post-secondary vocational students, Rep. John H. Dent (D-Pa.) specified that the volume of such loans by states or private lenders was not to exceed $15 million in the first and second years of the program, nor $30 million in the following years. In subsequent deliberations, however, House members increased the long-range maximum to $75 million while making it clear that the measure's provisions were to cover students of proprietary schools as well as nonprofit institutions.

The House Subcommittee of which Dent was a member further provided for direct federal loans for students unable to borrow locally at reasonable interest rates. In its House-approved form, the Dent bill authorized appropriation of $250,000 (or more if necessary) for insurance of up to $75 million in student loans and of $1 million for direct loans.

Senate action saw the measure amended to permit federal advances to student loan funds of states and private, nonprofit organizations offering federally guaranteed loans. (Only in Massachusetts and New York were vocational students then eligible for loans of this kind.) For these advances, an appropriation of $1.8 million was authorized.

The Senate Labor and Public Welfare Committee stressed that the authority of the U. S. Commissioner of Education to make direct loans to students was to be subordinate to the operation of state and private loan funds. The Committee reduced from $1,500 to $1,000 the amount a student could borrow in one year in the case of federally insured loans, and dropped the total loan that could be outstanding from $3,000 to $2,000.

Finally threshed out was a House-Senate conflict over whether or not to include in the bill an authorization for federal subsidization of interest rates on federally guaranteed loans. In its approved form, the legislation incorporated a compromise which provided for federal payment of all interest charges while student borrowers were still enrolled and of 3 percent on the unpaid principal thereafter for borrowers whose families had an adjusted income of less than $15,000 per year. Other students were made eligible for federally insured loans without subsidization of interest rates.

As signed by the President, the National Vocational Student Loan Insurance Act provided, in addition to the conditions previously described, that students could obtain loans if they were attending accredited post-secondary technical, trade, business, or vocational schools, whether public or private, if the institutions had operated for at least two years or were specially accredited by the Commissioner of Education. An advisory committee aids the Commissioner in this process, under which 3,500 institutions were initially accredited and as many as 10,000 may eventually be accredited.

Federally insured loans extended by the new law are to cover at least two years of study, with repayment to begin between nine and 12 months after completion of studies and to be fully repaid no later than nine years after. Prepayment is permitted without penalty.

When he signed the legislation late in 1965, President Johnson said: "The $1,875,000 allotted to the states for insured loan programs under this Act will make possible almost $19 million in loans. We estimate that in the first year as many as 25,000 young people—receiving grants of up to $1,000—will enjoy its benefits."

Unfortunately, it was not until fiscal 1967 that Congress appropriated a total of $3 million to start this new student loan program. For the 1968 fiscal year, ending June 30, 1968, appropriation of more than $6 million is authorized.

By the spring of 1967, the loan program was operating in 14 states, conducted by state agencies or by private, nonprofit insuring organizations. The U.S. Office of Education estimated that about 173,000 students will have received loans totalling $872 million by the end of 1968.

To the 90th Congress, the Administration proposed amendments to the National Vocational Student Loan Insurance Act which would extend its provisions for new federally insured loans until 1973 and for others until 1977. Other recommended amendments would raise the annual maximum loan to $1,500 and the maximum total loan to $3,000 in the case of either insured or guaranteed loans and would set the minimum annual repayment, in the case of both programs, at $360 or the total of the loan balance plus principal, whichever is less.

Another amendment would provide that, in the case of federally guaranteed loans (as in the case of federally insured loans) repayment would be deferred while borrowers are in full-time attendance at institutions of higher education, in military service, the Peace Corps, or VISTA.

Each state establishing a technical-vocational student loan fund is entitled to a federal loan of at least $10,000 plus an amount based on its population aged 18-22 years. The public or private agency insuring these loans applies to the U.S. Office of Education which, after review of the application, authorizes full or partial payment of the federal advance.

The program is administered by the Division o Student Financial Aid, Bureau of Higher Education U.S. Office of Education, Washington, D.C. 20202

A Classification of Technical Education

Editor's Note: Guidance counselors, administrators, and teachers of technical subjects should find this material useful. For counselors, it indicates the wide range of offerings in the technician-education field and gives a brief description of the subject matter covered so that prospective students can be informed about the programs. Many of these occupational areas are unknown to students, and may be unfamiliar to counselors.

Administrators and teachers will find this listing useful in defining various technologies and classifying them on a more standardized basis than has been the practice in the past.

TECHNICAL education is concerned with that body of knowledge organized in a planned sequence of classroom and laboratory experiences usually at the post-secondary level preparing students for a cluster of job opportunities in a specialized field of technology.

The program of instruction normally includes the study of the underlying sciences and supporting mathematics inherent in a technology; and of the methods, skills, materials, and processes commonly used and services performed in the technology. A planned sequence of study and extensive knowledge in a field of specialization is required in technical education, including competency in the basic communication skills and related general education.

Technical education prepares for the occupational area between the skilled craftsman and the professional person such as the doctor, the engineer, and the scientist.

The technical-education curriculum must be so structured that it prepares the graduate to enter a job and be productive with a minimum of additional training after employment, provides a background of skills and knowledge which will enable him to advance with the developments in the technology, and enables him with a reasonable amount of experience and additional education to advance into positions of increased responsibility.

The material in this article is from Standard Terminology for Instruction in Local and State School Systems (Third Draft), *Handbook VI, State Educational Records and Reports Series, U.S. Office of Education, May 1967. This analysis of instructional content, resources, and processes has been compiled by the U. S. Office of Education in a project to coordinate the activities of representatives of 53 participating national education organizations in the development of a basic national handbook of terminology and definitions. The information in the technical education section was prepared by an Ad Hoc Committee on Technical Education, of which Jerry S. Dobrovolny is corresponding secretary. Some changes are expected from this preliminary draft before the Handbook is officially published.*

The technician frequently is employed in direct support of the professional employe. For example, the engineering technician will be capable of performing such duties as assisting in the following engineering functions: designing, developing, testing, modifying of products and processes, production planning, writing reports, preparing estimates; analyzing and diagnosing technical problems that involve independent decisions; and solving a wide range of technical problems by applying his background in the technical specialties—mathematics, science, and communicative and citizenship skills.

The main divisions of technical education can be classified into engineering-related technology, agricultural-related technology, health-related technology, office-related technology, and other technical education.

Engineering-Related Technology

Engineering-related technology is that part of the engineering field which requires the application of scientific and engineering knowledge and methods combined with technical skills necessary in the support of engineering activities. Persons prepared in this technology are a part of the engineering manpower team which includes the skilled craftsman, the technician, and the engineer. They work as technicians in close support of the engineer.

Aeronautical Technology—A planned program of classroom and laboratory experiences, including mathematics, the physical sciences, and a combination of aerodynamics, structures, materials, and electronics as applied to the design, testing, and development of aircraft.

This program is designed to produce the ability to understand the propulsion, control, and guidance system of the airplane, and to collect pertinent engineering data in a research-and-development activity. This program prepares the graduate to work in direct support of the engineer in the aerospace industry.

Agricultural Technology—Specialized classroom and laboratory learning experiences in physical sciences, mathematics, and specialty courses dealing with farm machinery, farm structures, and rural electrification, designed to prepare the graduate to work in direct support of the agricultural engineer.

Among the types of agricultural technology are:

Agricultural Electrification Technology—Specialized learning experiences in electrical systems as applied to planning, estimating, and designing to meet the needs of the customer. Included for study are the principles of electricity, maintenance and operation of equipment, and related safety factors.

Agricultural Machinery and Equipment Technology—Specialized learning experiences in properties of soils, characteristics of crop growth, and the development of knowledge and understandings concerning mechanisms, control systems, and materials-handling as applied to the design, development, testing, and manufacture of agricultural machinery and equipment.

Agricultural Structures and Equipment Technology—Specialized learning experiences concerned with the strength of building materials and elementary structures as applied to planning, estimating, and designing to meet the needs of the customer.

Architectural Technology (Building Construction)—A program of instruction designed to provide the pupil with knowledge and understanding of scientific principles, mathematical concepts, and communicative and technical skills combined with laboratory experiences including creative design, testing, and model building which will enable him to be supportive to the architect and the architectural engineer.

The subject matter is concerned with design, estimating, inspection, supervision, and contracts and specifications—primarily in the field of building construction—with emphasis on the art of form.

Automotive Technology—A sequence of classroom and laboratory experiences, including the study of scientific and mathematical principles which lead to understanding of the design, development, and testing of internal combustion engines and related component parts of the motor vehicle, including transmissions, electrical systems, and braking systems.

This program is planned to prepare the graduate to perform duties concerned with designing, testing, and development in direct support of the automotive engineer.

Chemical Technology—A program of instruction designed to provide the pupil with knowledge of scientific principles, mathematical concepts, and communicative and technical skills combined with appropriate laboratory experiences which will enable him to be supportive to the chemical engineer.

The subject matter emphasizes qualitative, quantitative, and analytical analyses in general and organic chemistry. In the unit-operation laboratory he studies material handling, crushing, grinding, and sizing. By pilot-plant operation he studies the machinery and methods used in extraction, distillation, evaporation, drying, absorption, and heat transfer in chemical technology. He designs, installs, and operates pilot plants for chemical manufacturing processes.

Civil Technology—A planned program of classroom and laboratory experiences including the study of physical sciences, mathematics, surveying, strength of materials, and other specialty courses leading to preparation for designing, testing, and supervising the construction of highways, railroads, airports, bridges, harbors, irrigation works, sanitary plants, and other structures. The graduate works in direct support of the civil engineer.

Types of civil technology include:

Roadway Technology—Specialized learning experiences designed to prepare personnel for duties such as surveying, designing routes, laying out roadways, testing materials, acquiring land and preparing plans and specifications for the construction of highways, railroads, and airports.

Sanitation Technology—Specialized learning experiences, including the study of biological sciences, planned for preparing personnel who will be involved in the design, construction, and operation of water systems, sewage disposal systems, and pollution control systems.

Structural Technology—Specialized learning experiences concerned with the preparation of personnel for duties such as structural detailing and design testing, building construction supervision, estimating, and specification writing.

Electrical Technology—An organization of subject matter and laboratory experiences designed to provide preparation in specialty courses, physical sciences, mathematics, and general education as applied to the design, development, and testing of electrical circuits, devices, and systems for generating electricity, and the distribution and utilization of electrical power. These electrical systems incorporate, and require, knowledge about the application of electronic and instrumentation devices.

The program is designed to develop in the individual the capacity to perform in such areas as: model and prototype development and testing; systems analysis and integration including design, selection, installation, calibration, and testing; development of corrective and preventive maintenance techniques; application of engineering data; and the preparation of reports and test results in support of the electrical engineer.

Electronics Technology—Subject matter and laboratory experiences organized to provide preparation in the specialty courses, physical science, mathematics, and general education concerned with the design, development, modification, and testing of electronic circuits, devices, and systems. Subject matter incorporates solid state and microminiaturization devices and representative systems such as microwave systems, computers, and controls.

The program is designed to develop in the individual the capacity to perform in such areas as: practical circuit feasibility; prototype development and testing; development of maintenance techniques; systems analysis including design, selection, installation, calibration, and testing; and the application of engineering data and preparation of reports and test results in support of the professional personnel in the electronics field.

Electromechanical Technology—A selection and integration of specialized classroom and laboratory learning experiences in both the mechanical and electrical fields. Instruction is planned to provide preparation for responsibilities concerned with the design, development, and testing of electromechanical devices and systems such as automatic control systems and servomechanisms, including vending machines, elevator controls, missile controls, tape-control machines, and auxiliary computer equipment.

The program of instruction is designed to develop understanding, knowledge, and skills which will provide the capacity to perform effectively in such areas as: feasibility testing of engineering concepts; systems analysis including design, selection, and testing; application of engineering data; and the preparation of written reports and test results in support of mechanical and electrical engineers.

Environmental-Control Technology—Classroom and laboratory experiences designed to develop in the pupil knowledge and understanding concerned with the scientific principles and basic mathematics dealing with the control of temperature and quality of air, and the design, testing, installation, and development of heating and cooling systems.

Types of environmental-control technology include:

Cooling Technology—Specialized learning experiences concerned with cooling systems such as unit air conditioners and control systems. Instruction emphasizes design, development, and installation and their applications to cooling systems.

Heating Technology—Specialized learning experiences concerned with heat generation systems such as oil burners, coal furnaces, and electrical heating units. Instruction emphasizes design, development, testing, and installation and their applications to heating systems.

Refrigeration Technology—Specialized learning experiences concerned with such scientific principles as the laws of gases, the flow of fluids, and automatic control systems as applied to the temperature control of a particular environment, including food warehouses, cryogenic laboratories, and commercial food storage units.

Industrial Technology—A program of instruction designed to develop knowledge and understanding of scientific principles, mathematical concepts, and communicative and technical skills, combined with appropriate laboratory experiences which will prepare the pupil to be supportive to the industrial engineer in production and planning.

The subject matter emphasizes the design and installation of integrated systems of materials, machinery, equipment, and personnel.

Instrumentation Technology—A sequence of classroom and laboratory experiences, supported by physical sciences and mathematics, concerned with providing an understanding in the fields of electricity, electronics, mechanics, pneumatics, and hydraulics as they pertain to applications of the principles of control and recording systems and automated devices.

The instructional program is planned to prepare the pupil to design, develop prototypes, and test and evaluate control systems or automated systems and to prepare graphs, written reports, and test results in support of the professional personnel working in the field of instrumentation.

Mechanical Technology—A program of instruction designed to develop knowledge and understanding concerning scientific principles, mathematical concepts, and communicative skills, combined with appropriate laboratory experiences which will prepare a pupil to become supportive to the mechanical engineer.

Types of mechanical technology include:

Energy Conversion Technology — Specialized learning experiences designed to prepare personnel for duties in such fields as steam engineering, fuel and combustion analysis, steam and gas turbines, industrial power plant equipment, and internal combustion engines.

Machine and Tool Design Technology—An organization of subject matter and experiences concerned with the preparation of drawings, specifications, calculations, and procedures emphasized in the design or redesign of parts, assemblies, tools, jigs, and fixtures, and the testing of the characteristics and performance of machine tool units and components.

Production Technology—Specialized learning experiences designed to prepare personnel to perform duties in such areas of responsibility as process planning, machine selection, materials-handling, quality control, economics of production, inspection, and coordination between engineering design and production.

Metallurgical Technology—An organization of subject matter and laboratory experiences including specialty courses, physical sciences, mathematics, and general education concerned with the production, research, and/or quality control of metals.

The instructional program is designed to prepare pupils for performing duties in such areas as: conducting tests on the properties of metals; pilot and production plant design and development; the development, operation, and alteration of test procedures and equipment; and the collection and analysis of data and preparation of comprehensive and detailed reports in support of professional personnel in the metallurgical field.

Nuclear Technology—A combination of subject matter and laboratory experiences designed for the study of scientific principles, mathematical concepts, and communicative and technical skills which, when combined with appropriate laboratory situations, prepare the pupil to be supportive to professionals engaged in developing, manufacturing, testing, research, maintaining, storing, and handling materials in the nuclear science and energy field.

The subject matter emphasizes nuclear physics, radioisotopes, chemistry, electronics, nuclear instrumentation, and safety procedures. Graduates may enter and develop in this field as reactor technicians, radiation safety technicians, and radioactive-materials technicians.

Petroleum Technology—A planned program of classroom and laboratory experiences which includes mathematics, chemistry, physics, petrology, sedimentation, and geophysics as applied to the recovery and use of oil and gas.

Instruction leads to preparation for: oil field exploration; supervision of rig construction, drilling, oil field services, crude petroleum production, and petroleum refining; and work in direct support of the engineers and geologists in the oil industry.

Scientific Data Processing Technology—A combination of subject matter and experiences, including scientific principles and mathematical concepts, combined with specialty courses and applied laboratory experiences necessary in preparing pupils to: convert scientific, engineering, and other technical problem formulations to processable forms by computer; resolve symbolic formulations; prepare logical flow charts and block diagrams; encode resolvent equations for processing by applying knowledge of advanced mathematics, such as differential equations and numerical analysis; and gain understanding of computer capabilities and limitations.

The program is designed to provide in the pupil the capacity to perform such functions as: consulting with engineering and other technical personnel to resolve problems of intent, inaccuracy, or feasibility of computer processing; observing the computer during testing or processing runs to analyze and correct programing and coding errors; reviewing results of computer runs for determining necessary modifications and reruns; developing new subroutines or the extension of the application of available programs; and the development of scientific machine languages to simplify programing statements and coding of future problems.

Other Engineering-Related Technology—Other organized subject matter and experiences emphasized in engineering-related technology which are not classifiable or listed above, e.g., ceramics-engineering technology, marine-engineering technology, and mining-engineering technology.

Agricultural-Related Technology

Agricultural-related technology is that part of the agricultural field which requires the application of scientific knowledge and methods combined with technical skills in support of agricultural activities. Persons prepared in this technology are a part of the team which includes the skilled worker, the technician, and the scientist.

Animal Science Technology—Planned learning experiences which are concerned with the study and the operations dealing with theories, principles, and practices involved in producing animals and animal products for economic and other uses.

Dairy Technology—A combination of subject matter and practical experiences concerned with the information, processes, science, and decisions associated with milk and products derived from milk.

Food Processing Technology—A combination of subject matter and experiences concerned with the scientific principles and operations involved in the preparation of agricultural products for sale and consumption.

Plant Science Technology—Planned learning experiences which are concerned with the study and operations dealing with principles and practices involved in the culture and production of agricultural plants.

Other Agricultural-Related Technology—Other organized subject matter and experiences emphasized in agricultural-related technology which are not classifiable in the engineering-related category or are not listed in the above category.

Health-Related Technology

Health-related technology is that part of the health occupations field which requires the application of scientific knowledge and methods combined with technical skills in support of the health occupations. Persons prepared in this technology are a part of the health team which includes the skilled worker, the technician, and the dentist, medical doctor, and other professionals.

Dental Hygienist, Associate Degree—A combination of subject matter and experiences designed to prepare a person to provide services to patients such as performing complete oral prophylaxis, applying medication, and providing dental health education services, both for chairside patients and in community health programs, under the supervision of the dentist.

Medical Laboratory Assistant—A combination of subject matter and experiences organized to prepare a person to work under the supervision of medical technologists, clinical pathologists, or physicians to perform routine clinical laboratory procedures.

Medical X-ray Technician (Radiologic Technician)—A combination of subject matter and experiences designed to prepare a person for the safe use of X-ray equipment in both laboratory and clinical settings under the supervision of a radiologist or other physician.

Nurse, Associate Degree—A combination of general and nursing education and clinical experiences designed to prepare the person to work with the nurse supervisor, the physician, and other members of the health team in providing nursing care.

Other Health-Related Technology—Other organized subject matter and experiences emphasized in health-related technology which are not listed in the category above.

Office-Related Technology

Office-related technology is that part of the office occupations field which requires the application of scientific knowledge and methods combined with technical skills in support of office occupations. Persons prepared in this technology are a part of the office team which includes the skilled worker, the technician, and administrative management personnel.

Computer Programing Technology—Planned learning activities which include a combination of courses and practical experiences concerned with business data processing systems and operations, particularly with converting symbolic statements of business problems to detailed logical flow charts for coding into computer language.

The learning activities are designed to provide practice in flow charting and writing instructions in computer language for the direction of computer operation in the solution of a problem. Usually, subject matter includes program preparation steps, types of instruction, coding, flow charting and block diagraming, number systems, address systems, computer word format, housekeeping, running, and error detection.

Systems Analyst Technology—Subject matter and planned experiences concerned with analyzing and designing commercial systems, analyzing data methods, analyzing systems and procedures, and processing business data. Responsibilities include analyzing business problems such as the development of integrated production, inventory control and cost, and the formulation and refinement of an analysis system for conversion to a programable form for application to an electronic data processing system.

Activities frequently involve conferences with the project director of business data processing and department heads of units involved to ascertain specific output requirements such as types of breakouts, degree of data summarization, and formations for management reports; and with management personnel of operating units to revise plans for obtaining and standardizing input data.

Among other responsibilities of the systems analyst are: the study of current or the development of new systems and procedures to devise workflow sequence; the analysis of alternative means of deriving input data to select the most feasible and economical method; and the development of process flow charts in outlines and detailed form for programing, indicating external verification points such as trial audit printouts. Responsibilities may also include directing the preparation of programs, but does not include major responsibilities for technical, scientific, or exotic mathematics applications.

Other Office-Related Technology—Other organized subject matter and experiences emphasized in office-related technology which are not classifiable in the engineering-related technology category or are not listed in the above category.

Other Technical Education

Other aspects of technical education, not appropriately classified in the categories above, would be classified under this heading. Examples include:

Chemical Technology, Commercial Pilot Training, Fire and Safety Technology, Forestry Technology, Marine Technology, and *Police Science Technology.*

Technician Manpower: Requirements and Supply Now and in 1975

THE requirements of an expanding and increasingly complex and technologically oriented economy have resulted in a growing emphasis on the need for technical workers of all kinds. Among these workers is the group which has gained widespread recognition in the past two decades as a vital part of the scientific and engineering team—the technicians.

Despite the great importance of technicians to scientific and engineering teams, there is no generally accepted definition of the term "technician." One type of definition emphasizes education and training, indicating that technicians are those who have graduated from a two-year technical institute or its equivalent. Another type of definition emphasizes the work performed by technicians, generally indicating that technician work falls between professional work done by scientists and engineers and skill work done by craftsmen.

In this study, technicians are defined as workers who directly or indirectly support scientists and engineers in designing, developing, producing, and maintaining the nation's machines and materials. Their work is technical in nature, but more limited in scope than the work of scientists and engineers, and has a practical rather than theoretical orientation.

Technicians assist scientists and engineers in every phase of their work, often doing some of the tasks that would otherwise be done by the latter. They make sketches and drawings, perform mathematical computations, operate complex electronic equipment, and prepare formal reports on experiments, tests, and research projects.

In addition, technicians may do manipulative work usually associated with the skilled trades, such as complex soldering tasks. However, the manipulative ability of the technician is secondary to his technical skills.

Many technicians work in research, design, and development, usually working directly with or under the close supervision of a scientist or engineer. Technicians in research and development help conduct experiments or tests, often by setting up and operating complex equipment. Sometimes they help design, fabricate, and assemble experimental and testing equipment. Technicians engaged in production operations do quality control, inspection, and testing, act

The material in this article is from Technician Manpower: Requirements, Resources, and Training Needs, *a U.S. Department of Labor publication which presents the results of a comprehensive study of current and future technician manpower conducted by the Bureau of Labor Statistics with the support of the National Science Foundation. The 111-page booklet, published in 1966, is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. (BLS Bulletin No. 1512, 1966. 60¢.)*

as liaison between engineering and production departments, and perform other related tasks. Other technicians sell technical products, install complex machinery and equipment, or provide technical services to customers.

Technicians may be classified into four major occupational groups according to the specialty or scientific discipline to which they are most closely related: draftsmen, engineering and physical science technicians, life science technicians, and "other" technicians—the latter group consisting of miscellaneous occupations, such as industrial designer, computer programmer, and surveyor.

In 1963 there were approximately 845,000 technicians employed in the United States. Engineering and physical science technicians are the largest of the four groups, accounting for over 50 percent of the total (439,000). Draftsmen make up the second largest technician occupation, with about 25 percent of all technicians (232,000). Life science technicians accounted for about 7 percent of all technicians (58,000); and "other" technicians, about 14 percent (nearly 116,000).

Within the engineering and physical science group, by far the largest proportion were employed as engineering technicians. More than one-third of all technicians were in the engineering field. Smaller numbers in the engineering and physical science group were employed as chemical technicians, physics technicians, and mathematics technicians. About 6 percent of all technicians were classified as "other physical science technicians," including metallurgical technicians, instrumentation technicians, geological technicians, and meteorological technicians.

Manufacturing industries employed about 390,000 technicians in 1963, primarily in the electrical equipment, machinery, chemicals, fabricated metal products, and aircraft and parts industries. In private nonmanufacturing industries, large numbers of technicians were employed in engineering and architectural services (68,000), miscellaneous business services (39,000, primarily in counseling services and research and development testing laboratories), and in the communications industry (29,000). Another large group was employed in government (170,000). Relatively few technicians were employed by colleges and universities and other nonprofit organizations.

Technicians are a relatively young group of workers. The median age of employed technicians was about 33 years in 1963, compared with about 43 years for all workers. There was little difference in the age distribution among the major occupational groups, although draftsmen tended to be slightly younger than other technicians.

Technicians have a relatively high level of educational attainment. The median number of school years completed by technicians employed in 1963 was about 14 years. compared with about 12 years for all workers. Nearly two out of three technicians had some college education, and one out of 10 had a bachelor's degree. Younger technicians had a higher educational level than their older counterparts.

There are several basic methods of obtaining the training needed to enter a technician job. One method is training taken expressly to prepare for entrance into a technician job, which is called preemployment occupational training. This type of training is offered mainly in occupational curriculums in secondary schools, in post-secondary schools (such as technical institutes, community or junior colleges, area vocational-technical schools, and extension divisions of colleges and universities), in industry training programs, and in government sponsored training programs for unemployed workers (MDTA).

Another basic method of preparing for a technician job is through technician-related training gained as a by-product of education or training for other types of work. Such training can be received in four-year college and university bachelor's degree programs and during the training for and experience in Armed Forces technical work.

Still another method of qualifying for technician work is by acquiring work experience in a technician-related skill or job—as a machinist, electrician, or television and radio serviceman, for example. Often, correspondence or other academic training supplements this work experience. Such promotions to higher positions are referred to as "upgrading." Generally, however, employers use upgrading as a source of new technicians only when the supply of applicants with preemployment and technician-related training or education is not sufficient to meet the demand.

In 1963, approximately 90,000 entered the technician work force. About half of the new entrants were upgraded from technician-related jobs. Of the nearly 40,000 persons entering technician jobs after completing a training program designed to prepare them for technician work, probably more than 20,000 acquired their skills in industry programs. Post-secondary school curriculums provided more than 16,000 new graduates who entered technician jobs. Preemployment technician training in secondary schools is usually not extensive enough to prepare workers directly for technician jobs, although many such graduates will eventually enter technician jobs after receiving additional training.

Of those new entrants to technician jobs in 1963 who qualified for their jobs through education or training received during preparation for other types of work, approximately 6,000 received training in colleges and universities; about half of these college-trained workers received the bachelor's degree. The number of technicians entering directly after separation from Armed Forces technical jobs was small, despite the large number of persons with some technical training while in the Armed Forces. Many of those separated in 1963, however, are expected to enter technician jobs after receiving additional academic or on-the-job training.

Employment Requirements

Employment requirements for technicians are expected to rise from nearly 845,000 to 1.5 million between 1963 and 1975. This 78 percent increase is expected to result from continued economic expansion, especially in those areas where growing complexity of new products and processes will stimulate the demand for highly trained technical personnel. Growth will also stem from such factors as increasing utilization of technicians and expanding research and development activity.

The most rapid increase in requirements is expected to be for life science technicians. Demand for those workers is projected to increase by nearly one and one-half times between 1963 and 1975. Requirements for engineering technicians are expected to grow by nearly three-fourths, a rate of increase similar to the growth rate for all technicians. However, because of the relative size of this field (engineering technicians are the largest technician specialty), more persons will be needed to fill openings arising from growth of this group than any other specialty.

Employment requirements for draftsmen are expected to increase by more than three-fifths, the smallest projected increase of all technician specialties. In the drafting field, labor-saving technological developments, such as photoreproduction of drawings and electronic drafting equipment, are expected to have a greater effect on limiting growth than in the other technician specialties.

In addition to the need for technicians resulting from growth in employment requirements, about 380,000 workers will be needed from 1963 to 1975 to fill openings resulting from deaths, retirements, and transfers to other occupations. Needs resulting from deaths and retirements are expected to average about 10,000 a year. Losses arising from transfers

Occupation	*1963 employment*	*Projected 1975 requirements*	*Percent increase, 1963–75*
Technicians, total	844,800	1,500,000	78
Draftsmen	232,000	375,000	62
Engineering and physical science technicians	439,000	765,000	74
Engineering technicians	308,500	533,000	73
Chemical technicians	64,600	120,000	85
Physics technicians	10,800	23,000	112
Mathematics technicians	6,100	12,000	97
Other physical science technicians	49,000	80,000	63
Life science technicians	58,100	140,000	141
Other technicians	115,700	210,000	82

NOTE: Because of rounding, sums of individual items may not equal totals.

are expected to average more than 22,000 a year.

Thus, the total new technician manpower needs between 1963 and 1975 as projected are more than 1,025,000—an average of nearly 86,000 each year over the period.

Supply of Technicians

Underlying the projections of the future supply of technicians are four key assumptions: (1) that employers prefer to hire new technicians who have completed a preemployment training program; (2) that funds allocated under recent federal legislation to increase the facilities for technician training will be used for that purpose; (3) that current trends in the proportion of graduates of post-secondary preemployment training programs who enter technician jobs will continue in the future; and (4) that problems of status or salary will not deter young people from entering technician jobs any more or less than they have in the recent past. Based on these assumptions, the projections indicate that approximately 830,000 workers will enter technician jobs after completing some type of specialized technician training during the 1963-75 period.

Graduates of post-secondary preemployment curriculums are expected to be the largest source of supply, with about 435,000 entering technician jobs after completing these programs. Smaller numbers of technicians will enter from government training programs, four-year college and university curriculums, and the Armed Forces.

The projections of requirements and supply imply that the outlook for graduates of preemployment programs in junior colleges, technical institutes, government training programs, and industry will be excellent through the mid-1970's. Excellent opportunities should also exist for individuals with technician-related training obtained in four-year college or university engineering and science curriculums, or in Armed Forces technical work. Furthermore, workers in technician-related jobs who do not have specific training for technician work should also have very favorable opportunities for upgrading to technician jobs.

Training Aero Technicians at Miami-Dade Junior College

By George Mehallis

Director, Technical, Vocational, and Semiprofessional Studies,
Miami-Dade Junior College,
Miami, Florida

EDUCATORS close to the scene have made the observation that provocative new developments in the Aero Technology Program here at Miami-Dade Junior College seem to occur almost as frequently as they do up the coast at Cape Kennedy.

They cite a cross-section of recent and remarkably varied cases in point:

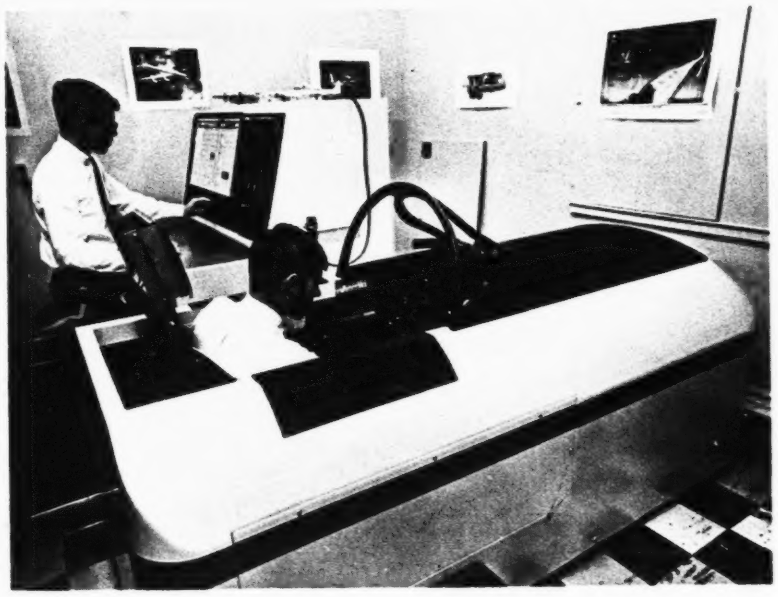
- The design and construction by one of the program's 19-year-old trainees of an experimental aircraft which passed all airworthiness tests in actual flight while winning for the student national recognition.
- The program's harnessing of new facilities at Miami-Dade's recently completed Science and Technology Center for instruction in a wide array of the related-engineering disciplines required of an aero technician in his work on space-age airframes and power plants.
- The launching by program directors of a course called "Aero Systems" in which small groups of three to four students can now apply the theory gleaned from lectures to the laboratory operation of a fully simulated jet aircraft systems procedure trainer.

These and other diverse occurrences point up an attempt to instill students and staff with the philosophy that the challenges of tomorrow's technology cannot be overcome with yesterday's training methods. The traditional approach to training airframe and power plant mechanics has been forsaken in favor of a pattern of innovation dating back to the program's 1961 inception.

Background

During the beginning years, a local vocational aviation school in renovated World War II barracks buildings served as the setting for laboratory sessions. Increased enrolments, plus transportation and scheduling problems, necessitated the moving of the program's basic technological laboratory to Opa-Locka Airport, which is less than a five-mile drive from the Miami-Dade main campus and the Science and Technology Center.

The program's acquisition and renovation of an old parachute loft at the airport placed the instruction in handy proximity to the mainstream of Miami aerospace activity. Much effort and ingenuity went into a facelifting process which saw the new facility equipped for such modern methodology as magnaflux testing, inert gas welding, and glass bead abrasive blasting. At the same time, matching resourcefulness went into the strengthening of supporting software, including extensive inventories of reference materials



Technician students at Miami-Dade Junior College are shown here operating the simulated jet aircraft systems procedure training apparatus.

relating not only to the college's aircraft (an Aeronca 7-AC, Douglas C-47, and Air and Space 18A autogyro) but also to DC-8's, DC-9's, Boeing 720's, 727's, and numerous others.

The end result is a program which features a problem-solving approach enabling the average student who is sincerely interested in aerospace to transfer the basic principles of related-engineering disciplines to practical work on aircraft. The ultimate reward to successful graduates has been a choice of job placement in a variety of categories within the wide spectrum of aerospace technology.

Laboratories and Equipment

Modern equipment and a well qualified professional staff functioning within the new Science and Technology Center have provided the satellite facilities necessary to support the needs of a modern aero technology program. Furthermore, the unknown demands in the decades ahead can be readily met by merely changing the emphasis from one scientific discipline to another.

Each of the laboratories now on the main campus can exercise the environmental control necessary to maintain the critical temperatures and humidity needed for the operation of the highly sophisticated equipment. An indication of the nature of this sophistication is provided by the following partial list of special equipment supplementing the full array of regular hardware stocking each of the laboratories:

Manufacturing Technology Laboratory (3,072 sq. ft.)—Tape-controlled drilling machine, electro-discharge machining unit, strain gage recorder, tape perforators, ultrasonic testing unit, optical comparator, magnaflux test unit, vertical milling machine, ram and turret milling machine, tape-controlled contour mill.

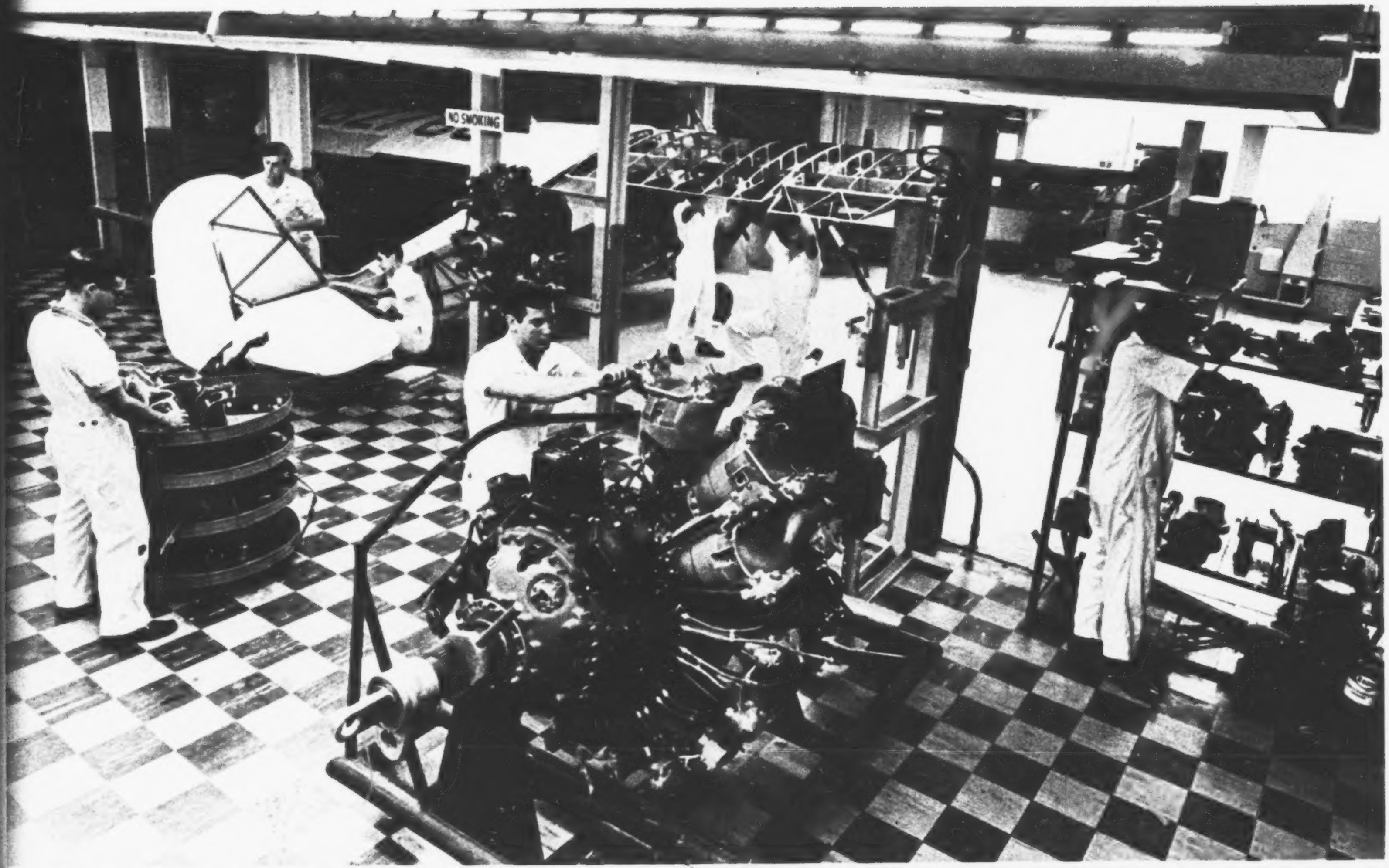
Hydraulics and Pneumatics Laboratory (2,016 sq. ft.)—Portable hydraulic open channel with tank, pipe friction flow with tank, flow measurement unit, mobile hydraulic training unit.

Instrumentation Laboratory (2,016 sq. ft.)— Control systems analog, industrial process simulator, industrial process dynamic demonstrator, industrial temperature process simulator, hydraulic training unit.

Electronics Laboratory (2,016 sq. ft.)—Special student workbenches equipped with oscilloscopes, VOM's, sine square wave generators, etc.; lecture-demonstration unit; portable demonstration rack.

Materials Testing Laboratory (2,016 sq. ft.)—Motorized Rockwell hardness tester, Brinell hardness testing unit, tension compression tester, impact testing machine, torsion testing unit, breaking strength tester, sheetmetal testing machine, multi-motion filling tester, flammability tester.

The hydraulics and pneumatics laboratory at Miami-Dade covers more than 2,000 square feet. It includes a portable hydraulic open channel with tank, pipe friction flow with tank, and mobile hydraulic training unit.



Students at work in Miami-Dade's basic aero technology laboratory, located at the Opa-Locka Airport near the Miami-Dade main campus.

Engineering Graphics Laboratory (6,048 sq. ft.)—Blue-line printer and developer, microfilm printer and developer, special support facilities for drafting.

Aero Systems Laboratory (600 sq. ft. plus classroom)—Jet aircraft systems procedure trainer, electrical system training panel, hydraulic system training panel, pneumatic system training panel, fuel system training panel, air conditioning and pressurization training panel, flight control systems training panel.

Aero Technology Laboratory (6,000 sq. ft. plus hangar and ramp area)—Douglas C-47, Air and Space 18A, Aeronca 7-AC, cutaway radial engines, cutaway jet engine, abrasive blast booth, inert gas welding unit, oxyacetylene welding unit, propeller balancing unit.

Curriculum

The Aerospace Department at Miami-Dade has two separate programs of study which prepare students for competency as either "Career Pilots" or "Aero Technicians." Both programs have courses which are common to each other in the academic area of study. However, while the laboratory work for the Career Pilot Program is pursued in operational aircraft with flight instruction acquired through two contractors, the Aero Technology laboratory courses are pursued in college facilities.

An internship program is anticipated which will allow students to receive academic credit for practical experience and, additionally, enable interested corporations to seek out and jointly evaluate potential employes. Two major aircraft overhaul facilities have indicated a strong desire to include this type of an option to assist them in their selection of personnel for potential technical managerial positions.

Here is the existing curriculum, with the anticipated internship option added:

FIRST YEAR

First Term	*Semester Credit Hours*	*Lecture/Lab Hours*
Orientation	1	1/0
Aeronautical Sciences, Engineering Lab I	3	1/5
Expository Writing	3	3/0
Technical Drawing I	3	1/5

An understanding of the practical applications of scientific measurement is obtained in the college's instrumentation laboratory.

Technical Mathematics	3	3/0
Manufacturing Processes I	3	1/5
Physical Education	1	1/0

Second Term

Aeronautical Science, Engine and Structures Theory	3	3/0
Aeronautical Science, Engineering Lab II	3	1/5
Aeronautical Science, Physics	3	3/0
Technical Drawing II	3	1/5
Algebra and Trigonometry with Applications	3	3/0
Slide Rule	2	2/0

SECOND YEAR

First Term

Aeronautical Science, Engineering Lab III	3	0/6

The aero systems classroom at Miami-Dade Junior College uses a wide variety of training panels and simulators to impart insight into the complexities of aerospace technology.

In the materials testing laboratory, students are presented with a practical learning situation dealing with strength and properties of materials.

Aeronautical Science, Electricity and Electronics	3	1/5
Hydraulics and Pneumatics	3	2/2
Technical Report Writing	3	3/0
Social Science	3	3/0

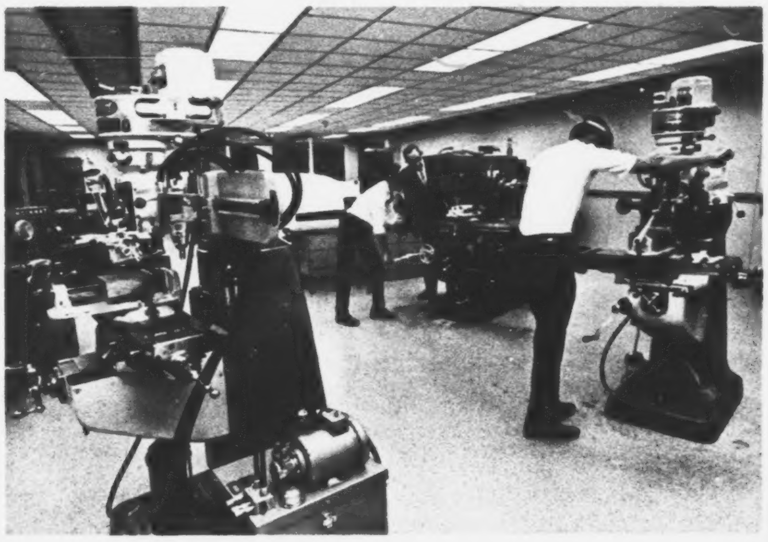
Second Term

Aeronautical Science, Aerodynamics	3	3/0
Aeronautical Science, Engineering Lab IV	3	0/6
Aero Systems	3	3/0
Social Science	3	3/0
Aircraft Instruments	3	1/5

Third Term

Materials Testing	3	2/2
or Internship	3	30-40 hrs. per wk.
Total	67	

The manufacturing technology laboratory at the college has a sophisticated inventory of tools and machines, including tape perforators, tape-controlled drilling machine and contour mill, and ultrasonic testing unit.



aculty

Due to professional requirements which include ocumented industrial experience as a prerequisite or junior-college technical teacher certification in the tate of Florida, the instructors staffing the varied aspects of the Aero Technology Program evidence a igh degree of practical know-how. Moreover, the um total of the Technical Division faculty's array f graduate and post-graduate degrees in engineering, cience, education, and the arts compares favorably vith any institution of learning.

In addition to excellent academic credentials, staff members of the Aerospace Department possess extensive industrial experience in research and development, flight engineering, maintenance and repair, navigation, meteorology, transportation, administration, professional piloting, and engineering. Their professional and applied backgrounds are reinforced with Federal Aviation Agency certification encompassing Airframe Mechanic, Powerplant Mechanic, Multi-engine Flight, Flight Engineer, Instrument Flight, and Commercial Pilot ratings.

Placement of Graduates

In the absence of an official placement center at Miami-Dade, it is impossible to present an accurate assessment of graduate employment. However, a limited follow-up study of students completing the Aero Technology Program found them employed in such positions as: engineering aide in aero propulsion research and development; missile technician in the space industry; flight engineer, co-pilot, and mechanic with commercial air carriers; and in various aerospace-related capacities with the military.

Considered to be of particular significance in this limited study was the apparent indication that the program's broad-based foundation in aero technology permitted the student to find aerospace employment in whatever specialized career area was suited to his particular interests.

Future

Optimism runs high among the program's students and staff alike due to a number of events which have occurred recently. To elaborate: A national study has revealed that the need for aero technicians continues to grow . . . Statistics published in the TECHNICIAN EDUCATION YEARBOOK indicate that the starting salary is substantially higher for two-year graduates of aeronautical technology programs than for those from other two-year technical programs . . . Representatives of major airlines have continued to visit the facilities and evidence a strong desire to interview our students on graduation . . . The administration here at Miami-Dade is seriously contemplating a move that would place the program's technological laboratory, with its aircraft, directly on campus.

These factors have enabled the Aerospace Department to foresee a great demand for its services in the years ahead. The design of existing physical facilities and the capability of the Technical Division's staff insure program development which will keep pace with the future needs of the ever evolving aerospace industry.

Advanced problem solving in the aeronautical engineering laboratory at Miami-Dade Junior College.

The Police Science Technology Program at New York's A&T College at Farmingdale

By Charles W. Laffin, Jr.

President, State University of New York,
Agricultural and Technical College,
Farmingdale, New York

LAW enforcement, whether it be on the municipal, state, federal, or industrial level, has emerged in the past few years as a task that must be performed by skilled professionals.

As additional law enforcement legislation and civil rights decisions come into being and as we in our daily lives are further confronted with the spiraling complexities of an increasingly urbanized society, the necessity for training these skilled professionals of law enforcement becomes decidedly critical.

To provide the specialized education and training essential for competent performance in this field, the discipline of police science has evolved from occasional in-service instruction to a demanding college-level curriculum. Its acceptance by the legal community and by the public it serves is graphically demonstrated by the Police Science Program offered by the State University of New York Agricultural and Technical College at Farmingdale—one of the largest programs of its type in the nation.

Enrolment Growth

Having begun in 1959 with classes conducted on a part-time basis under the auspices of the Evening College at Farmingdale, the Police Science Program has expanded from its initial enrolment of 80 students to nearly 600 students currently engaged in full- and part-time course work.

The full-time program, which began in the fall of 1965, was originally intended to accommodate 50 students, but demands from recent high-school graduates exceeded preliminary expectations and the enrolment quota was increased to 100. In the fall of 1966, 134 entering freshmen were admitted to the program—including 10 women.

At the time of writing, the first class of full-time students had not yet graduated, but a survey indicated the majority intend to continue police science study at the four-year level. Others, approximately 25, noted they had received acceptance for positions with local and state law enforcement agencies.

While virtually all full-time students enter the program directly from high school, those studying police science part-time are actively engaged law enforcement officers from neighboring county police departments and industrial security organizations.

Requirements for Entrance, Completion

Requirements for the Police Science Program at Farmingdale include a high-school diploma or equivalent, and at least two units of mathematics, with algebra, and two units of science.

A total of 70 semester credits are needed for completion of the program to earn the Associate in Applied Science degree. To complement their specialized courses all students must complete a minimum of 24 credits in the general education area—English, the humanities, and the social sciences—with an additional six credits in either mathematics or science.

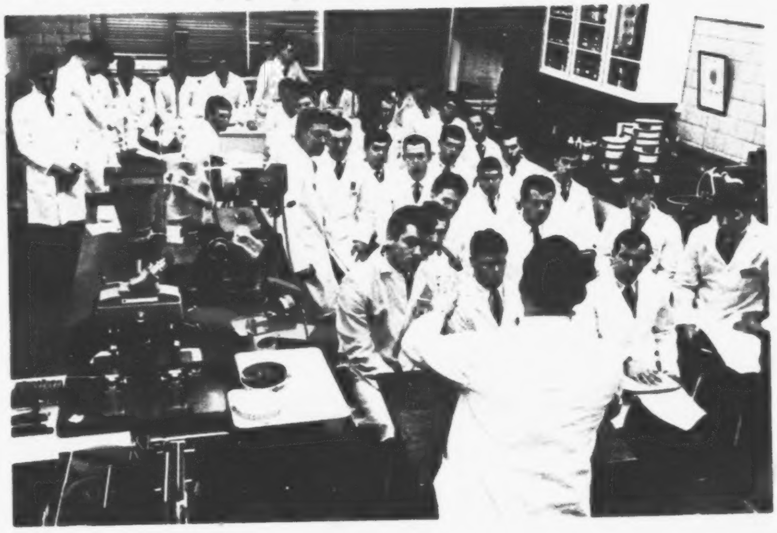
The following three-credit courses comprise the Farmingdale police science curriculum:

Introduction to Law Enforcement
Patrol Administration
Police Traffic Enforcement
Police Administration
Criminal Investigation I and II
Police Records and Communications
Criminal Law
Juvenile and Police
Civil Rights and Human Relations
Evidence and Criminal Procedure
Interrogation and Case Preparation

In keeping with recent Supreme Court decisions stressing the importance of scientific investigation in the realm of law enforcement, the College at Farmingdale has established a crime laboratory outfitted with the latest detection equipment, including:

- 5 binocular stereoscopic microscopes
- 2 dual-viewing microstar compound binocular high-power microscopes
- Binocular stereoscopic microscope equipped with extension arms and a 35mm Graflex stereocamera attachment

Police science students are shown here receiving a lecture-demonstration prior to working on individual crime laboratory projects.



In the Police Science Technology Program at Farmingdale, the videotape system is used to display a microscopic view of a cartridge case to an entire class. An essential audiovisual aid, it is also used for videotaping crime scene investigations and for the taping of evidence presentations that could be used in the courtroom.

Instructor and student can simultaneously view particles with the dual-viewing, high-powered microscope in the Police Science Program. The device is also easily adapted to photomicrography.

Iodine fuming, a method of developing latent fingerprints, is studied and practiced during the advanced criminal investigation course by police science students at Farmingdale.

- Fluorescence microscope
- Forensic comparison microscope

This equipment is used for comparative analysis of hair, fiber, serology, and histology. The stereoscopic devices enable three-dimensional viewing of paint, safe insulation, firearms identification, and toolmarks.

Photographic equipment includes fingerprint cameras—Polaroid 1070G with photomicrographic assembly; Graflex stereocamera; and Speed Graphics (4 x 5), with Polaroid backs. These are used for crime scene photography in black and white or in color, fingerprint photography, photomicrography, and infrared document photography.

For purposes of research, crime scene reporting, document study, and class instruction, the College Crime Laboratory utilizes a videotape-recorder and camera assembly with two infrared viewers.

Advisory Committee Is Essential

In addition to its two-dozen professional staff members—collectively representing the areas of criminal laboratory investigation, municipal and state law enforcement agencies, and the field of jurisprudence—the Police Science Program at Farmingdale maintains an active advisory committee. Composed of recognized authorities in the field of law enforcement, the committee lists as members: commissioners of police, representatives of police training commands, industrial security directors, and a state senator. The committee meets regularly with Police Science faculty to review program content and to make recommendations that are in keeping with current theory, techniques, and procedures.

Though still in the early stages of development, the program at Farmingdale has already received national and international recognition through its annual seminar on Civil Rights and Human Relations, on its Law Enforcement Workshop conducted in the summer for police science professors throughout the nation, and through its faculty who have contributed to the President's Commission on Law Enforcement, a report issued earlier this year.

To date, the Farmingdale Police Science Program has received more than $100,000 in federal grants for the acquisition of new laboratory equipment and for the sponsoring of special workshops and seminars.

One can confidently predict that the individual planning to make a career in this field will find his role increasingly complex and important. Current trends support this thought, particularly in the broad category of "professionalization," because the era of a completely college-educated, local or state law enforcement agency is here.

Training Food Service Supervisors at Ferris State College

By Mildred M. Omlor

Instructor, Food Service Supervision,
Ferris State College,
Big Rapids, Michigan

NOURISHED by the increase in population and the sharp decrease in time allotted to home-cooking, the nation's food service industry has grown mightily during recent years.

Not without growing pains, however. There persists a critical shortage of trained help—technician-type personnel capable of bringing to bear an increasingly complex body of knowledge.

This in large measure explains the acceptance accorded the Food Service Supervision Program at Ferris State College. From the outset, graduates of the two-year program have had a wide choice of employment opportunities at starting salaries ranging from $6,000 to $10,000.

Origins, Organization

The FSS Program is a logical outgrowth of the long-standing educational philosophy embraced by Ferris. Ever since its 1884 founding, the college has pursued as one of its essential purposes the equipping of students with the skills, understanding, and abilities necessary to meet the requirements of income-producing positions.

FSS is offered within the framework of the School of Technical and Applied Arts, which administers a wide variety of other career-targeted programs. This school, in turn, is but one of the instructional components of Ferris. The college, with a total enrolment of about 7,500, has several other schools (Commerce, Pharmacy, General Education) with curriculums ranging up to five years in length.

The collegiate atmosphere is a distinct advantage to enrollees in career programs such as food service because of the personality-development features of campus life. And personality plays a big part in success in the food service field.

Food production, preparation, and serving is a complex art and a difficult science. Consequently, positions in the food industry require scientific knowledge, varied cultural and professional backgrounds, and skills and know-how in handling people.

To meet these demands (especially pronounced in Michigan where tourism and food catering are big business), Ferris launched its FSS Program in 1961. Embracing a two-year collegiate curriculum, the program leads to an Associate in Applied Science degree on completion. It is designed to prepare men and women for supervisory positions in food service establishments. It aims to give students competency in the following fields:

1. Analyzing financial statements
2. Setting up efficient staff organizations

3. Understanding people
4. Purchasing, storage, preparation, and serving of food

Requirements for Admission

Ferris State College, in keeping with its tradition of being an "opportunity school," is able to admit into the Food Service Program mature, serious-minded applicants who have graduated from high school or have the equivalent of a high-school diploma.

General requirements include good character, seriousness of purpose, maturity, basic native ability, and capacity to achieve. Those accepted into the program must be able to get along with people, have the ability to make decisions, and possess a keen interest in food.

Women as well as men are accepted as students; however, a majority of the students are young men. Each year, the enrollees include a few mature students—men and women—who have been in the food business and are entering college to benefit from new knowledge and technology.

Faculty

Obtaining qualified personnel for the Food Service Program has been difficult at Ferris, but the staff has been stable for the last four years of operation.

Ideally, faculty members should have experience in both food service management and teaching. However, few individuals meet these requirements, and those who do are seldom interested in a teaching career.

Adding to the difficulty is the fact that not many colleges are training students to teach in food service.

The staff is limited to one full-time professional. This individual has a varied background of experience, which includes management of food services in colleges and at the high-school level, industrial feeding, catering, private club management, membership in national organizations relating both to food service and to education, and, of course, teaching.

Expansion of the program has been considered. The possibilities include management options, branching into related areas, and a four-year curriculum. The shortage of available instructors, however, makes expansion difficult.

Curriculum Requirements

The curriculum was developed to train people for supervisory positions in the food service industry. The student is trained in two major areas: working with people and a knowledge of food. Successful food service operators, as well as personnel directors of food management firms, have indicated that getting

A special lab facility at Ferris permits a variety of practical demonstrations in meal serving.

long with people is 75 percent of the job. A knowl-dge of food, while important, is secondary.

FIRST YEAR

	Quarter Hours Credit
1st Term	
Introduction to Food Service	3
English	3
Biological Science	4
Typewriting	3
Orientation	1
Health and Physical Education	1
Food Service Co-op Experience	1
	16
2nd Term	
Nutrition	3
Food Sanitation	3
English	3
Biological Science	4
Health and Physical Education	1
Food Service Co-op Experience	1
	15
3rd Term	
Menu Planning	3
Food Service Calculations and Cost Estimating	3
Social Science	3
Speech Fundamentals	4
Health and Physical Education	1
Food Service Co-op Experience	1
	15

Among the areas covered by the cooperative training phase of the program is an indoctrination in the bakery procedures applied to a modern food-service operation.

SECOND YEAR

	Quarter Hours Credit
1st Term	
Purchasing and Storage	5
Food Service Record Keeping	3
Institutional Equipment and Layout	3
Marketing (Color and Line)	2
Social Science	3
Speech—Group Discussion	4
	20
2nd Term	
Organization and Management of People	5
Food Preservation and Meat Technology	3
Political Science	3
Psychology of Supervisory Training	3
Elective	3
	17
3rd Term	
Catering	5
Political Science	3
Psychology of Personality Improvement	4
Humanities	3
Elective	3
	18

Cooperative Training Program

The Food Service Supervision Program at Ferris was started with a minimum of equipment—including not much more than the proverbial kitchen sink and stove. It relies for facilities on an effective on-campus cooperative training arrangement with the food service units operated by the college in handling the task of feeding more than 5,000 dormitory residents.

There are now five food service units operated by the college. Each unit can accommodate six students for the supervised practical training program. This, obviously, limits enrolments. The manager of each unit has been educated and trained in food service. The students are responsible to the managers.

During the first three terms in the program, each student spends two hours a day, five days a week, in a food service unit.

In addition to receiving college credit for this work, the student is paid the regular wage for student help. Two of the terms are spent in food preparation. The third term is spent at the serving counter in the dining area. Student assignments are rotated so that each has an opportunity to work in every area of food preparation including the bakery.

During the second year of the program, additional use is made of the food service units. Students studying quantity food purchasing spend four hours each week in the storerooms under the manager's supervision. This experience augments classroom theory and gives good experience in storeroom managing.

In the final term, the student spends six hours weekly in the college catering department assisting in the organizing, serving, and followup of catered meals and functions.

Food service units and the employes are often used as resources for class assignments in food cost, calculations, organization and management of people, layout and design, and special projects.

It is obvious that a successful program in food service supervision must either have its own food service to operate and manage or work on a cooperative basis with some facility. The arrangement with the College Food Service at Ferris has been effective.

Program Evaluation in Terms of Graduates

Graduates have been placed in a variety of positions with acceptable salaries. From the beginning each graduate has had a choice of employment opportunities. Some have gone with food management firms including Sky-Chef, Fred Harvey, Harding-Williams, and Greyhound. Others have entered college food service employment in Michigan, Ohio, and New York. Restaurant chains—including Big Boy, Burger Chef, and Win Schuler's—have attracted some. Hospital food services and tea rooms in department stores have appealed to the women graduates. Some graduates, especially the men, have elected to go into management training programs with a food management firm.

Others have continued their educations by enrolling at institutions with four-year programs in hotel and restaurant administration. Still another choice for some has been to continue at Ferris in a business administration curriculum. At the end of the business administration program, the student receives the four-year bachelor degree.

Under the supervision of employes of campus food-service units, students in the co-op phase also learn how to operate various pieces of kitchen equipment.

Each year more firms come to the campus seeking employes from FSS graduating classes, and each year there are more positions than graduates.

The Future

There were four graduates from the program in 1962. Twenty-four students are expected to graduate in 1967. Since the facilities of the cooperative program limit the number of students who can be accepted, early enrolment is desirable.

It is apparent that the greatest challenge in future expansion would be to offer a four-year program including a major in management as well as additional options for supervisory technicians.

The food service industry as a whole seems to be expanding and demanding highly trained and qualified personnel to maintain its high standards. Students in the Food Service Supervision Program at Ferris State College are being educated to meet this demand.

Training Nuclear Technicians at Old Dominion College

By Edgar A. Kovner

Dean, Community College Division,
Old Dominion College,
Norfolk, Virginia

THE introduction of a nuclear program at the engineering-technology level is a project not to be undertaken too lightly. There is very little precedent available as a guide in the area of curricular content, course outlines, and graduate placement. Expense of laboratory construction, equipment, and operation is difficult to ascertain. Then there arises the further requirement of Atomic Energy Commission licenses in the various nuclear operations.

Nevertheless, that these problems have been effectively surmounted is attested to by the following record of success achieved by the Community College Division of Old Dominion College in its Nuclear-Option Program in Electronic-Engineering Technology directed by J. Hirst Lederle:

April 27, 1962: Circulated letter to industry describing proposed curriculum and soliciting comments.
July 25, 1962: Submitted initial proposal for AEC grant.
May 20, 1963: Received $10,000 grant.
July 2, 1963: Requested Special Nuclear Material License from AEC.
July 30, 1963: Received Special Nuclear Material License.
September 18, 1963: Accepted first students in new Nuclear Option. In addition, several second-year students transferred to the new program.
February 1, 1964: Applied for Byproduct Material License from AEC.
February 28, 1964: Received Byproduct Material License.
August 12, 1964: Graduated initial class.

As for the professional acceptance accorded our graduates, consider this partial listing of their present whereabouts:

- Five are employed in the Submarine Reactor Plant Department, Atomic Power Division, Newport News Shipbuilding and Dry Dock Company, Virginia's largest industry.
- At the Virginia Associated Research Center, the operator of the 600-mev synchro-cyclotron (and author of its operating manual) is one of our graduates. Two others (including one serving as a full-fledged reactor operator) are with the Sandia Corporation, Albuquerque, N. M.; still another is with the Goddard Project, Greenbelt, Md.
- A 1966 graduate is an associate engineer in the Reactor Systems Department of the Nuclear Engineering Division, Martin-Marietta Company, Baltimore, Md. His initial assignment concerns the de-

sign of process-instrumentation systems for isotope production facilities and reactor systems.

- The Consultants Engineering Science Division of the Flow Corporation, Fort Belvoir, Va., utilizes one of our graduates to assist in its studies of radiation hazards. And three others are presently pursuing additional advanced technical study.

Drafting and Refining the Program

When the possibility of introducing a program in the nuclear field was first being considered, it was decided at the outset to combine the nuclear courses with a strong base in electronics because of the interrelationship of the two fields. A proposed curriculum was drawn up and it received favorable comment and suggestions for improvement from industry.

The curriculum was further evaluated in terms of the criterions established by the American Nuclear Society and the American Society for Engineering Education, and subsequently took its present shape.

Completion of this curriculum requires 92 semester credits, which are divided into the following general areas:

	Semester credits
English and technical writing	9
Social studies	9
Mathematics	14
Physics	8

Program Outline
Nuclear Option, Electronic-Engineering Technology

Semester			*C	L	S
1	Engl 101	Composition and literature	3	0	3
	Fine Arts	Elective	3	0	3
	Math 112	Topics in algebra	3	0	3
	Tech 100	Introduction to technology	0	2	1
	Tech 151	Electrical circuits	3	6	5
	P.E. 101	Physical education	0	3	1
			12	11	16
2	Engl 102	Composition and literature	3	0	3
	Math 113	Topics in trigonometry	3	0	3
	Phys 101	Elementary physics	3	3	4
	Tech 251	Electronics I	3	6	5
	P.E. 102	Physical education	0	3	1
			12	12	16
3	Phys 102	Elementary physics	3	3	4
	Tech 105	Analytic geometry and calculus	5	0	5
	Tech 252	Electronics II	3	6	5
			11	9	14
4	Engl 103	Technical writing	3	0	3
	Tech 106	Electronics calculus	3	0	3
	Tech 164	Graphics	1	6	3
	Tech 253	Pulse and digital circuits	2	3	3
	Tech 257	Servomechanisms	2	3	3
			11	12	15
5	Hist 111	Technology in history	3	0	3
	Tech 202	Industrial materials	2	3	3
	Tech 289	Power plants	2	3	3
	Tech 291	Nucleonics	3	3	4
	Tech 292	Environmental radiation	3	0	3
			13	9	16
6	Social Studies	Elective	3	0	3
	Tech 391	Radioisotope procedures	1	3	2
	Tech 392	Nuclear instrumentation	3	3	4
	Tech 393	Reactor technology	2	3	3
	Technical	Elective	2	3	3
			11	12	15

*C=Class hours; L=Laboratory hours; S=Semester credit hours.

Electrical and electronics	21
Nuclear	16
Other technical courses	13
Physical education	2
Total	92

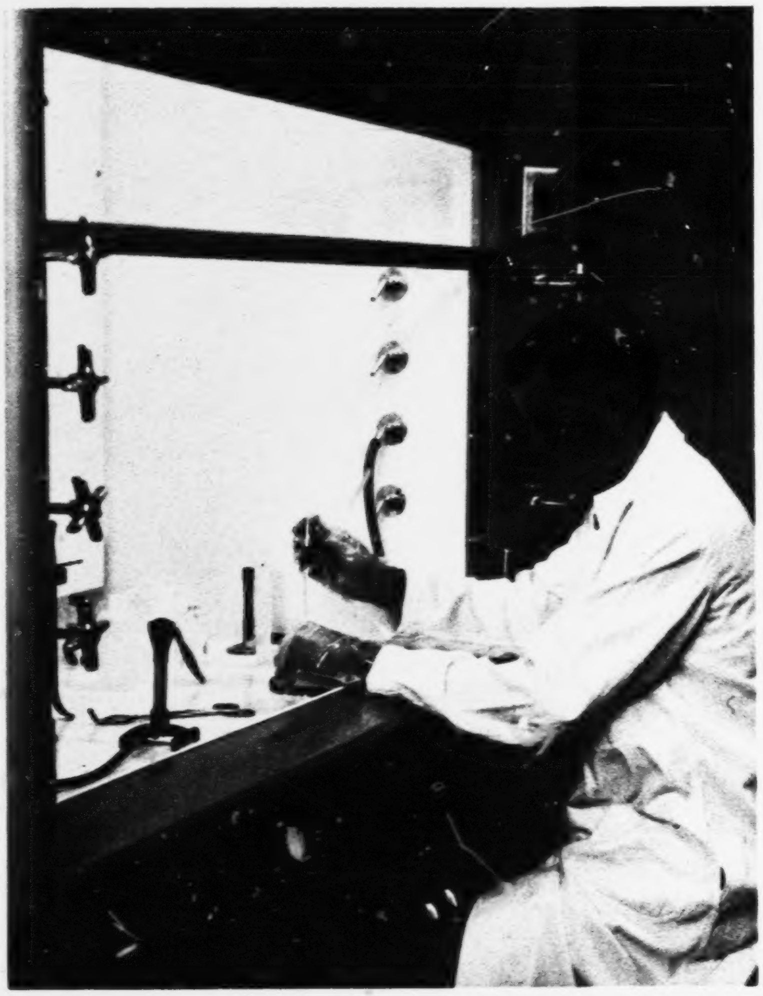
Supporting Procedures, Considerations

The preparation of a grant proposal for the Atomic Energy Commission involved setting forth proposed course outlines, experiments, lists of equipment (including prices), projected student enrolments, faculty qualifications, and other pertinent information. (A very helpful *Guide for Submission of Proposals for Equipment Grants and Loan of Materials in Physical Sciences and Engineering* is now available from the Atomic Energy Commission.)

The granting of the various special licenses is predicated on the petitioning institution having the required qualified personnel and laboratory facilities. The license forms are relatively simple and self-explanatory, and are also available from the AEC.

Because of the rigorous courses required in the nuclear program, as indeed is the case throughout its engineering-technology programs, the Old Dominion Community College Division's Technical Institute accepts only those secondary-school graduates who have successfully passed courses in elementary algebra, intermediate algebra, plane geometry, and chemistry. The Technical Institute is accredited by the Southern Association of Colleges and Schools and is an affiliate member of the American Society for Engineering Education.

This student is operating a 400-channel analyzer with scintillation detectors to obtain data for accurately plotting the gamma spectrum of a radioactive sample.



A nuclear technology trainee at Old Dominion College prepares a radioactive sample protected by the laboratory's special fume-control installation. He wears plastic gloves to avoid contamination.

Laboratory Work, Equipment

The experimental work in the nuclear courses includes determination of Geiger tube characteristics, decontamination procedures, proportional counter operation, half-life determinations, calibration of protective equipment, range, scattering, and absorption of alpha and beta particles, gamma absorption coefficients, energy range changes, spectrum plotting, radioisotope tracing, analysis of decay, neutron detection, counting, absorption, and scattering, radioisotope preparation by neutron bombardment, statistical errors in radiation detection, and others.

Safety precautions are stressed throughout the program. This emphasis virtually encompasses a technology of its own, by reason of the supporting instrumentation and related instruction.

The laboratory equipment is valued at $35,000 and includes the following:

- Energy analyzer training systems for use with either Geiger tubes or scintillation detectors.
- 400-channel analyzer system, including detector and teletypewriter readout.
- Ratemeter training systems.
- Gas flow detectors.
- Beta-gamma survey meters.
- Neutron survey meters.
- Neutron howitzer with 2-curie Pu-Be neutron source.
- Cobalt-60 source (10 millicuries).
- Various small sources.
- Nuclear fume hood for radioisotope preparation.
- Assorted sample changers, dosimeters, x-y recorders, etc.
- Assorted chemical laboratory apparatus for nuclear work.

Future Directions, General Prognosis

There are several signposts pointing to a rapid buildup in the demand and need for nuclear technicians of the type being trained at Old Dominion.

For example, with the cost of producing electricity by means of nuclear power plants approaching that of fossil fuel plants, the Atomic Energy Commission has asked Congress for permission to sell atomic fuel instead of leasing or renting it. In fact, when President Johnson told a college audience not too long ago that an "economic breakthrough" had been achieved in nuclear power, he thereby signalled the start of a race to produce sufficient nuclear engineers and technicians to meet the rapidly growing needs of both industry and the armed forces.

At Old Dominion, we feel we are in the vanguard of an inevitable move by technical institutes to bring adequate resources to bear on the preparation of youth for participation in the Nuclear Age.

Nuclear technology students here remove a sample from the neutron howitzer with the neutron source in the safe-storage position. A survey meter is monitoring for excessive neutron leakage.

Training Paramedical Technicians at Springfield Technical Institute

By Teresina B. Thompson

Assistant Director, Springfield Technical Institute,
Springfield, Massachusetts

IF ideal manpower conditions prevailed within the complex structure of our modern system of health services, each university-trained professional would be augmented by 12 supportive workers. However, the already critical shortage of health technicians is compounded by such factors as the upsurge in population, the advent of new technological developments requiring additional paramedical staffing, and the bid to extend effective health care to all those in need.

Designed to contribute to the easing of this shortage are seven health occupation programs offered by Springfield Technical Institute. Functioning at the post-secondary level are career courses of approximately one year's duration in medical assisting, dental assisting, medical laboratory assisting, physical therapy assisting, inhalation therapy, surgical technology, and practical nursing.

Under the guidance of the Massachusetts State Department of Education, these programs have been developed for students who desire employment in hospitals, other health agencies, or as assistants to doctors and dentists. Their training is precisely geared to producing competency in the handling of assignments delegated and carried out under the supervision of professional personnel.

The Springfield program is a constantly expanding one. As the need arises, a special planning group—charged with the conduct of ongoing pilot studies—will begin the development of a new program tailored to a specific requirement, usually building on the core curriculum of an existing program. Representative of the results of this procedure is the new inhalation therapy program, which is an outgrowth of the program in medical assisting.

Advisory committees have played extremely important roles in the development of all programs. The membership of these committees, which function not only during the embryonic stages of a program but also render vital ongoing consultant services, is comprised of specialists in all aspects of a particular health area.

Admission to the school requires that the applicant be a high-school graduate and that she provide a transcript of marks, personal recommendations, and a physician's certificate of good health. She takes an aptitude pre-test and is given a personal interview by the instructor in charge of the particular course in which she is interested. All records, test results, and interviews are evaluated by an admissions committee.

Training in the clinic as dental assistants.

Externship program as inhalation therapists.

The training facilities within the Institute itself include a laboratory, classroom, and completely equipped dental clinic. An adjoining five-floor hospital provides students with classrooms, medical laboratories, actual hospital surgical facilities, nursing arts practice units, and libraries specializing in each

Trainees for medical laboratory assistants at Springfield Technical Institute.

area. Nearby and available to the students is the Hampden County Medical Library.

The faculty includes registered nurses, a dentist, a dental hygienist, a medical laboratory technologist, and a physical therapist.

Curriculum Similarities, Differences

There are, of course, differences in the curriculums for the various occupationally oriented programs. They all, however, require similar basic courses. The Institute has, therefore, developed a comprehensive core program for all the health service courses offered. The students study anatomy and physiology, psychology, language arts, business practice, nutrition, first aid, and terminology, as well as the technical skills involved in each area.

The differing lengths of the programs, along with special admission requirements, are as follows:

- 10 Months:
  Dental Assisting
  Medical Assisting
  Inhalation Therapy Assisting
  Physical Therapy Assisting
  Surgical Technology
- 12 Months:
  Medical Laboratory Assisting
  (Algebra, Biology, and Chemistry are a prerequisite)
- 15 Months:
  Practical Nursing
  (Minimum age, 17½ years; birth certificate and United States citizenship required)

Trainees in the surgical technology program.

The medical assistant program is 10 months long.

Externships, Placement

After the initial theoretical part of the training, carried out in the classroom and laboratory, a cooperative, hospital-school externship program is put into effect. There are now 16 affiliating hospitals and health agencies in the greater Springfield community offering the students supervised, on-the-job clinical experience.

The demand for those qualified in these skills exceeds the ability of the school to provide for them. Placement is rapid. These students may look forward to satisfying careers and membership in allied health associations. Some of these associations offer the opportunity for certification.

The Springfield Technical Institute has been an innovator in this area of vocational public-school education. It is not only helping meet immediate needs, it is simultaneously planning an expansion of its present program. With the opportunity posed by a move in the fall of 1967 into a new 53-acre campus, the Institute plans a broader offering in the health service area to include two-year programs leading to an associate degree.

Training Sanitary Engineering Technicians at Fayetteville Technical Institute

By Howard E. Boudreau

President, Fayetteville Technical Institute,
Fayetteville, North Carolina

THE sanitary engineering technician performs a special and indispensable role in today's community life. The production and safeguarding of our water supply is one of the most vital services demanded by our population growth and industrial expansion. The increasing amount of research being undertaken in sanitation and the increasing number and complexity of water purification and distribution systems and sewage handling and disposal systems (public, private, and industrial) require adequately trained technicians to guard our well-being.

The sanitation technician, as a member of the public health team, performs many and varied duties. He may help in research on pilot plant development and operation. He may perform such duties as operator or assistant operator of water treatment facilities. He may also assist in the design of operational facilities.

Fayetteville Technical Institute pioneered in the development of a curriculum for a sanitation engineering technician program. The Institute was fortunate to have two engineers on the faculty who were much concerned with the problem and who had worked in the field before joining the faculty.

In the initial planning stages of the program, a state-wide advisory committee was formed, which included representatives of state regulatory agencies, municipalities, consulting engineers, utilities contractors, equipment manufacturers, industry, and members of the curriculum laboratory from the North Carolina State Department of Community Colleges. With the formation of this advisory committee, F.T.I. was bringing together professional engineers and school people to determine the need for such technician training, the types of courses that should be included in the curriculum, and the amount and kind of facilities and equipment needed.

It quickly became apparent that although several colleges and universities offered a four-year baccalaureate degree and advanced degree work in the field of public health and sanitation, there was a great need for a two-year program specifically designed to train sanitary engineering technicians. On June 1, 1964, the first sanitary engineering technology program in North Carolina was born. It was put into operation at Fayetteville Technical Institute in the fall of 1964.

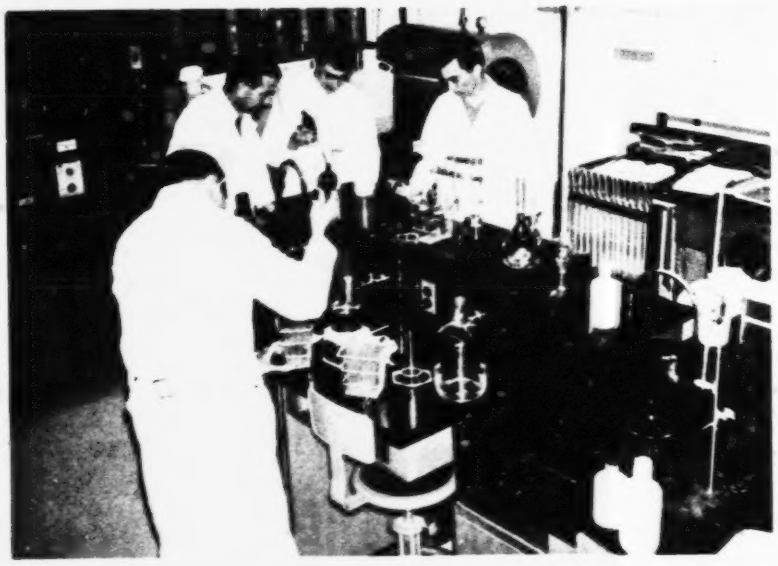
Shortly after the program got under way, the U. S. Office of Education became interested in the curriculum for sanitary engineering technicians, and in 1965 it awarded F.T.I. a grant to develop guidelines for the new technology program to be produced for national distribution. The two-year post-high-school curriculum guide is now scheduled to be published early in 1968, to be entitled "Water and Wastewater Technology."

Curriculum

The curriculum, as developed at Fayetteville, is basically designed to train technicians to work in areas related to sanitary engineering and public health. The student receives such specialized technician courses as water and waste treatment, sanitation, control systems, and plant equipment and maintenance, in addition to related course work in mathematics, science, drafting, surveying, and communication skills.

The requirements for entry into the program are high-school graduation (or its equivalent), including a year of chemistry and two years of math, and a qualifying score on F.T.I.'s entrance examinations.

The current curriculum is as follows:



Students prepare bacteriological media in the sanitary engineering technician program at Fayetteville Technical Institute.

	Class Hours	*Lab*	*Credit Hours*
First Quarter			
English (Grammar)	3	0	3
Technical Mathematics	5	0	5
Physics: Properties of Matter	3	2	4
Technical Drafting	0	6	2
Introduction to Sanitation	2	4	4
	13	12	18
Second Quarter			
English (Composition)	3	0	3
Technical Mathematics	5	0	5
Physics: Work, Energy, Power	3	2	4
Surveying	2	6	4
Applied Biology	3	2	4
	16	10	20
Third Quarter			
English (Report Writing)	3	0	3
Technical Mathematics	5	0	5
Basic Microbiology	3	2	4
Basic Hydraulics: Principles of Flow	2	4	4
Technical Drafting	0	6	2
	13	12	18
Fourth Quarter			
English (Oral Communication)	3	0	3
Sanitary Chemistry & Biology	2	4	4
Water Supply & Liquid Waste	3	2	4
Water Purification	4	3	5
Applied Electricity	2	4	4
	14	13	20
Fifth Quarter			
Applied Economics	3	0	3
Sanitary Chemistry & Biology	2	4	4
Liquid Waste Treatment	3	4	5
Control Systems	2	4	4
Drafting	0	6	2
	10	18	18
Sixth Quarter			
Applied Psychology	3	0	3
Sanitary Chemistry & Biology	2	4	4
Liquid Waste Treatment	3	4	5
Codes, Contracts, Specifications & Estimates	2	3	3
Field Surveying	0	6	2
	10	17	17
Total	76	82	111

Laboratory and Physical Facilities

Special laboratory facilities are required for teaching sanitary engineering technology. The sanitary chemistry and biology laboratory and water hydraulics laboratory are unique to this curriculum and have been furnished and equipped specifically for the program. The biology and microbiology laboratory classes, on the other hand, make use of existing laboratories.

The hydraulic laboratory, one of the most expensive parts of the sanitary engineering technology program, is a key facility, designed so the student can make realistic measurements. The hydraulics laboratory at Fayetteville consists primarily of two wet pits, a dry pit, and a small water plant, together with the necessary piping, pumps, metering equipment, and power supply. The pits are located below floor level in order to provide necessary headroom for the hydraulic experiments. No special materials or design considerations were necessary for construction of the laboratory pits except that they had to be watertight. The estimated cost of the equipment for the hydraulics laboratory is approximately $50,000.

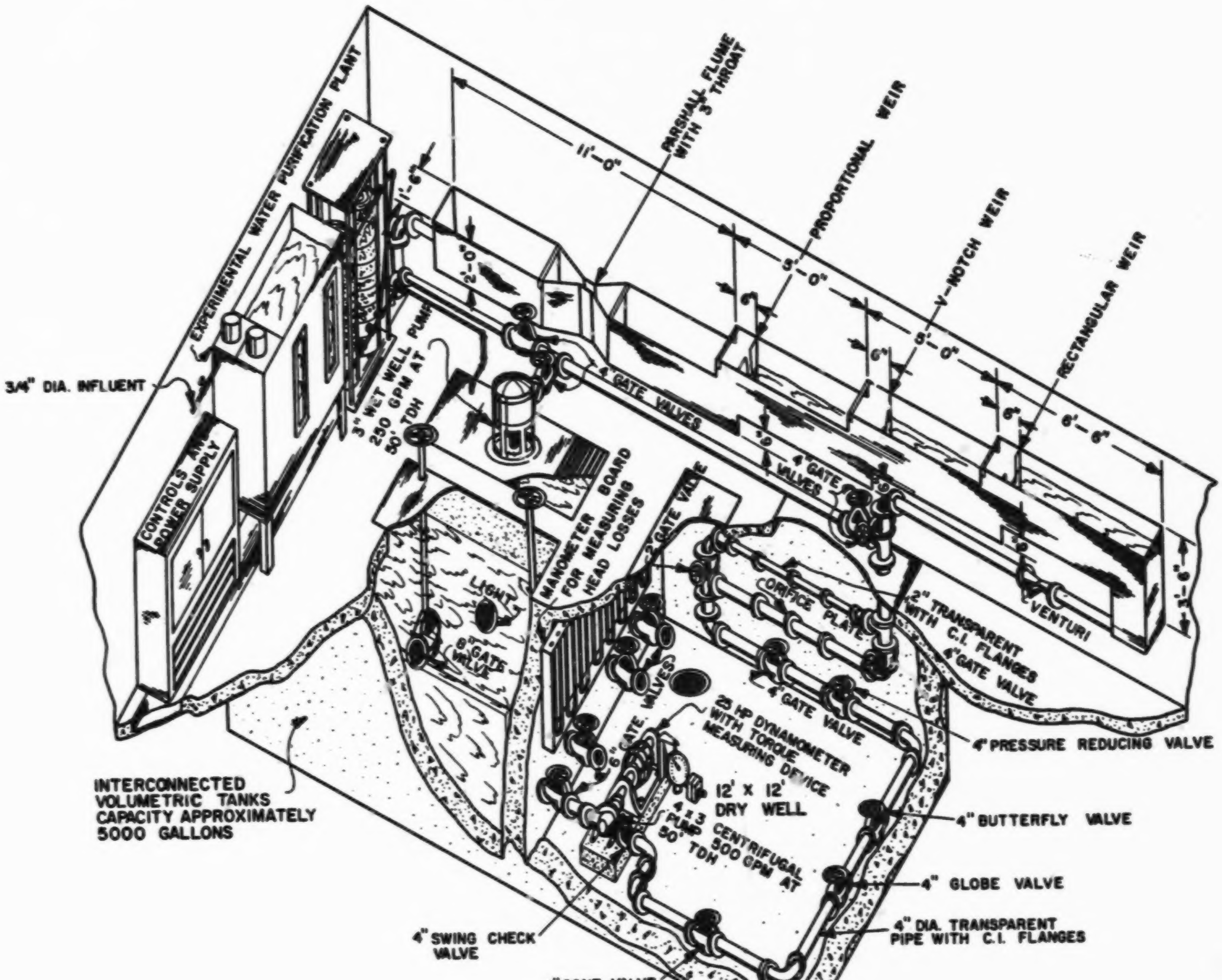
The liquid waste disposals in the sanitary chemistry and biology laboratory need special planning because liquids being fed in the laboratory draining system may contain more concentrated acid or alkali than is desirable for immediate disposal. The estimated cost of the sanitary chemistry and biology laboratory equipment at Fayetteville is approximately $75,000.

Although the laboratory arrangement, facilities, and equipment may be designed to fit any number of students, experience at F.T.I. indicates that maximum teaching efficiency is achieved when they are designed for no more than 24 first-year students and 16 second-year students in a section.

Faculty

Probably the greatest difficulty in starting a program in sanitary engineering technology is to secure a qualified faculty. The staff at Fayetteville consists of two instructors with master's degrees in public health and two professional engineers who combine to teach the major subjects. The regular math, science,

A cross-sectional drawing of the hydraulic laboratory at Fayetteville Technical Institute.


EXPERIMENTAL WATER PURIFICATION PLANT
PARSHALL FLUME WITH 3" THROAT
11'–0"
1'–6"
2'–0"
PROPORTIONAL WEIR
V–NOTCH WEIR
RECTANGULAR WEIR
5'–0"
5'–0"
6'–6"
6"
6"
6"
6"
6"
6"
1'–6"
3/4" DIA. INFLUENT
CONTROLS AND POWER SUPPLY
3" WET WELL PUMP 250 GPM AT 50' TDH
4" GATE VALVES
4" GATE VALVES
MANOMETER BOARD FOR MEASURING HEAD LOSSES
2" GATE VALVE
LIGHT
8" GATE VALVE
ORIFICE PLATE
VENTURI
2" TRANSPARENT WITH C.I. FLANGES
4" GATE VALVE
4" GATE VALVE
6" GATE VALVES
25 HP DYNAMOMETER WITH TORQUE MEASURING DEVICE
12' x 12' DRY WELL
4 x 3 PUMP CENTRIFUGAL 500 GPM AT 50' TDH
4" PRESSURE REDUCING VALVE
4" BUTTERFLY VALVE
4" GLOBE VALVE
4" DIA. TRANSPARENT PIPE WITH C.I. FLANGES
INTERCONNECTED VOLUMETRIC TANKS CAPACITY APPROXIMATELY 5000 GALLONS
4" SWING CHECK VALVE
4" CONE VALVE

and English departments handle the general education subjects.

The Graduates

On successful completion of the S.E.T. program, the student is awarded the Associate of Science Degree in Sanitary Engineering Technology. As a graduate, with a knowledge of laboratory procedures in performing many types of tests on liquid and solid wastes, foods, and water to determine bacteriological characteristics, etc., he is qualified to enter into a variety of positions, such as public health engineering aide, sanitarian aide, treatment plant operator, stream sanitation technician, industrial waste technician, technical sales and services of equipment and chemicals, water plant operator, as well as various engineering technician positions with federal, state, and local governments.

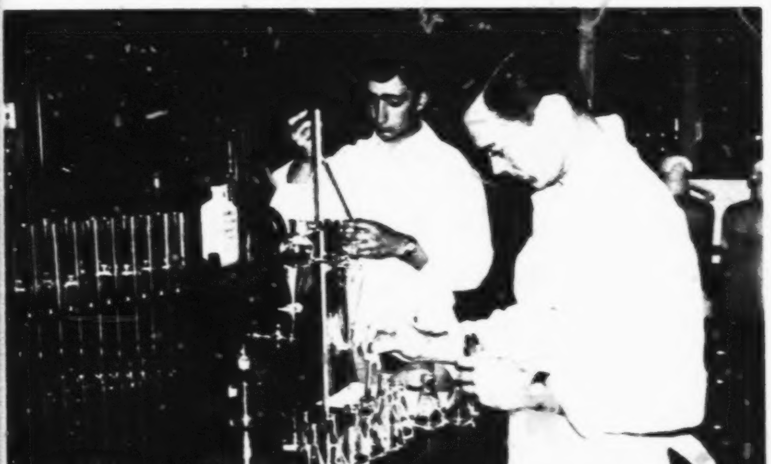
At F.T.I., the Student Personnel Office provides a job placement service for all students who successfully complete a program of study at the Institute. In addition, the Admissions and Placement Office maintains an active file of prospective employers and provides employers with personnel data sheets on students from the curriculum that meets the job demands. The demand for graduates has exceeded the supply in all areas of technician curriculums offered at Fayetteville, and this is especially true for the graduates of the sanitary engineering technician program.

In all cases, the graduates of the S.E.T. program have accepted employment in the field in which they were trained. Graduate technicians are now working in the county health departments, municipal water and wastewater treatment plants, state health departments, state stream and sanitation departments, and city engineering departments. The S.E.T. graduates are also being utilized for inspection and safe operation of milk production and processing, meat packing, food processing, control of disease, and in housing and allied health areas.

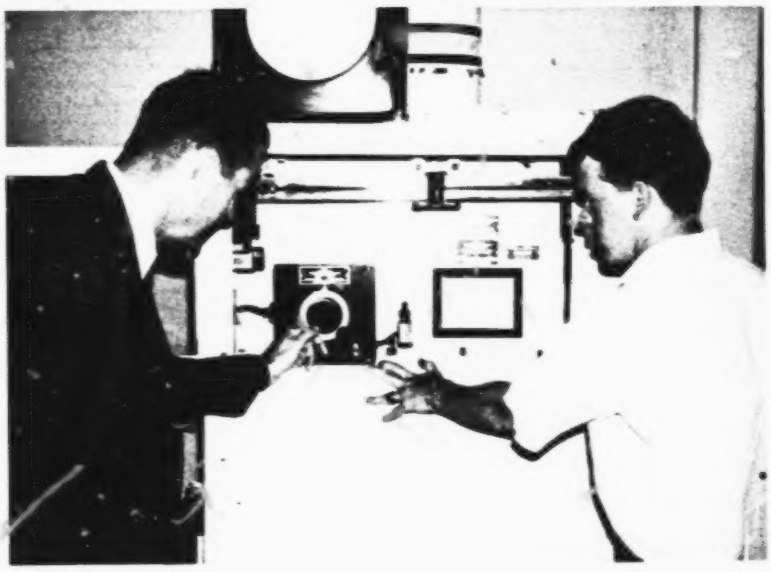
The protection of the health of our people and our country is an area in which we cannot afford to have a shortage of skilled manpower. The sanitary engineering technology program at Fayetteville Technical Institute is designed to prepare highly skilled personnel for an essential occupation where an acute shortage of trained manpower has developed.

A student in the sanitary engineering technician program tests a stream with dissolved oxygen sampler.

Determining copper in waste sample in the sanitary chemistry and biology laboratory at Fayetteville.



A student here is shown how to adjust the gravimetric feeder as part of his technician training.



Training Vacuum Technicians at San Jose City College

By W. John Tolson

Instructor, Vacuum Technology,
San Jose City College,
San Jose, California

A LUSTY newcomer to industrial technology has been growing with ever increasing vigor almost completely unnoticed by the general public. This new technical "tool" is high vacuum.

Vacuum is defined as "a space entirely devoid of matter"; hence, a space exhausted to a high degree by an air pump. Since making a space entirely devoid of matter is, as yet, impossible, degrees of vacuum must be specified. For example, the "vacuum" produced by a vacuum cleaner is quite "low," whereas, the vacuum of outer space is extremely high; that is, few molecules of matter exist in each cubic foot in outer space.

In 1963, a study of the requirements of various industries using vacuum in their processing was made by San Jose City College. The study revealed many new and expanding fields of vacuum technology, including: Thin film deposition, encompassing the coating of lenses and mirrors and the production of microelectronic circuits and computer elements; vacuum metallurgy, including zone refining, brazing, and casting of metals; vacuum freeze-drying of foods; and space simulation.

It was also learned that numerous pharmaceutical companies, the linear accelerator program at Stanford, and manufacturers of specialty vacuum devices (such as vacuum condensers, vacuum switches, and traveling wave tubes) were all using vacuum in their processes.

These various industries were queried regarding the type of work being done by their technicians in the high vacuum field and the potential demand for new employes. As a result of these contacts, the decision was made to establish a comprehensive Vacuum Technology Program at San Jose City College.

Curriculum

From discussions with representatives of industry, it was determined that the Vacuum Technology Program should provide a strong electronics background coupled with an ability in employing vacuum techniques. With this in mind, the following two-year curriculum was established:

FIRST YEAR

First Semester	*Semester Units*	*Lec. Hours*	*Lab. Hours*
Electronic Calculations	3	3	0
Vacuum Technology	10	5	15
Health Education	2	2	0
Physical Education	½		2
	15½	10	17

Second Semester

Electronic Calculations	3	3	0
Applied Vacuum Technology	10	5	15
American History and Institutions	3	3	0
Physical Education	½		2
	16½	11	17

SECOND YEAR

First Semester

General Electronics	6	4	6
Electronics Project Development	2	1	3
American History and Institutions	3	3	0
English	3	3	0
Elective	2	2	0
Physical Education	½		2
	16½	13	11

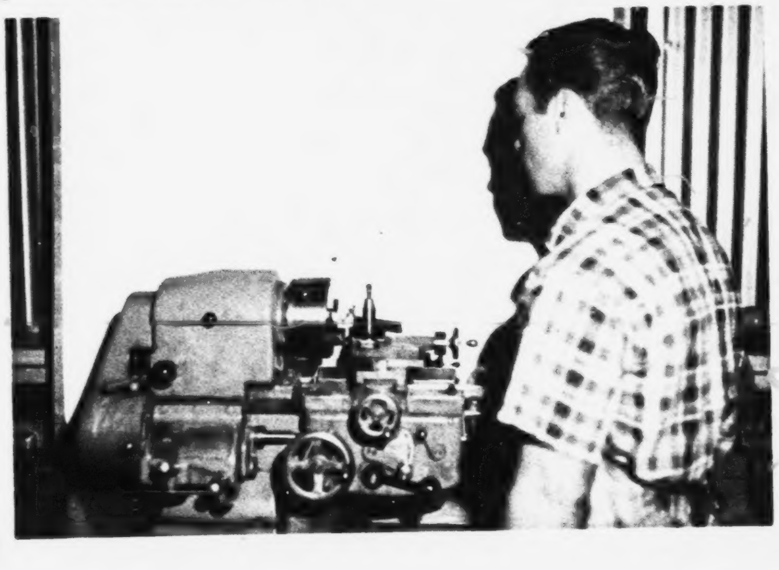
Second Semester

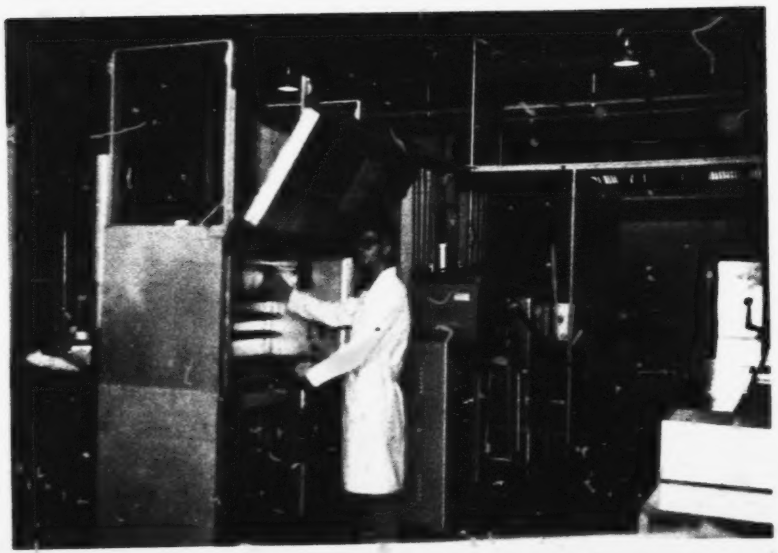
General Electronics	6	4	6
Electronics Project Development	2	1	3
Elementary Chemistry	3	2	3
Speech	3	3	0
Elective	2	2	0
Physical Education	½		2
	16½	12	14

A certificate of achievement in vacuum technology was also established to be awarded to students who satisfactorily completed 30 units including (1) vacuum technology, (2) applied vacuum technology, and (3) electronic calculations.

Immediate Plunge into Vacuum Technology

Trainees in the Vacuum Technology Program fabricate parts for vacuum devices on the metalworking lathe.





View of a vacuum station, induction furnace, and heliarc area of the vacuum technology laboratory at San Jose City College.

During the first semester, the Vacuum Technology Program at San Jose CC places considerable emphasis on how to:

- Select the proper materials for vacuum components.
- Degrease, chemically clean, electropolish, electroplate, and cataphorize materials.
- Manufacture components for use in vacuum devices. This also includes considerable laboratory time in glass blowing and metal lathe operations.
- Metalize ceramics and make ceramic-to-metal seals.

So far as possible, processes duplicate those used in industry.

At the start of the first semester, each student picks as a project some device such as an ionization gauge, bubble manometer, gas laser, mercury still, feed-through, or any component which might be used in or as a vacuum device or system. The selection is left to the student and he is encouraged to search for unique and interesting projects. The various steps in fabrication are known as job elements and the student must complete approximately 75 of these.

The student is required to present a typewritten report on his project or projects at the end of the semester. Emphasis is placed on developing good report writing techniques and submitting carefully done drawings and charts. The objective of all this is to duplicate, as closely as possible, situations the prospective technician will face in industry. The result of this effort is an increased awareness of cost and the need on the part of the technician for thoroughness in his work. Completed projects are usually professional in appearance and often perform as well as their industrial counterpart.

During the second semester of the first year, the student learns how to assemble, operate, and maintain various types of vacuum systems. Furthermore, he learns techniques in leak detection; vacuum deposition of metals and nonmetals; vacuum melting and casting of metals; zone refining of metals; and vacuum freeze-drying of foods.

In addition, basic problems in space simulation are formulated and researched. Second-semester projects consist of the design, construction, and operation of vacuum systems to achieve some desired result, such as a freeze-dry unit for freeze-drying of foods.

Electronics Is Underscored

Emphasis during the second year is placed on a general electronics course which is taught by the Electronics Department. The sophomore year was chosen for the electronics courses because many of our students are hired immediately after completing the vacuum courses; this arrangement allows them to complete their studies in electronics during the extended day program to obtain the A.A. Degree in Vacuum Technology.

Equipment and Materials

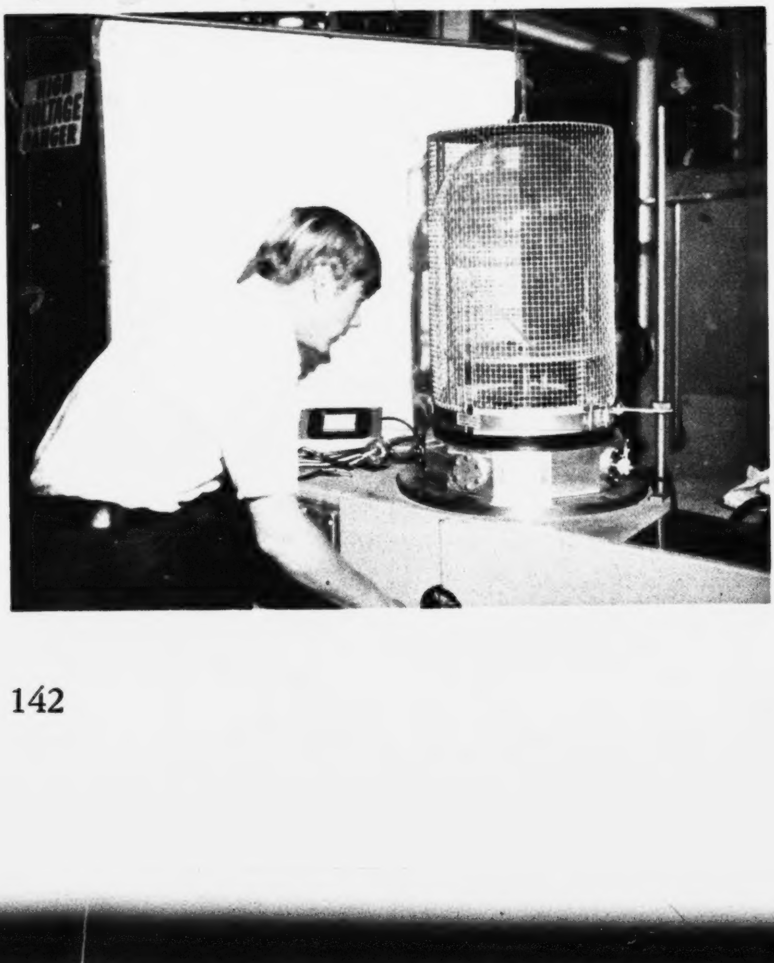
A broad based study of vacuum techniques requires considerable equipment. Fortunately, San Jose City College already had a vacuum tube laboratory which could be adapted to accommodate the Vacuum Technology Program. Approximately $5,000 worth of additional equipment was added to make possible the fabrication of components and to fabricate thin films including microelectronic circuits. Our vacuum-tech laboratory now has:

2	Horizontal glass lathes
1	Glass annealing furnace
1	Cut-off wheel
6	Complete vacuum systems
1	Leak detector
1	High frequency induction furnace
1	Heliarc welder
1	Tubular controlled atmosphere furnace
3	High-voltage power supplies
1	Low-voltage high-current power supply
1	12" metalworking lathe
1	8" metalworking lathe
5	Resistance spot-welding units
1	Bending brake, No. 2
2	Hydrogen bell jar furnaces
1	16" shear
1	6-ton arbor press
2	Drill presses
1	Bench grinder
1	Polaroscope
1	Microscope with 10, 20, 40, and 60 objectives; a 35mm camera; filar micrometer; sodium lamp and power supply; interferometer; and miscellaneous lights for stage lighting.
6	Vacuum gage power supplies

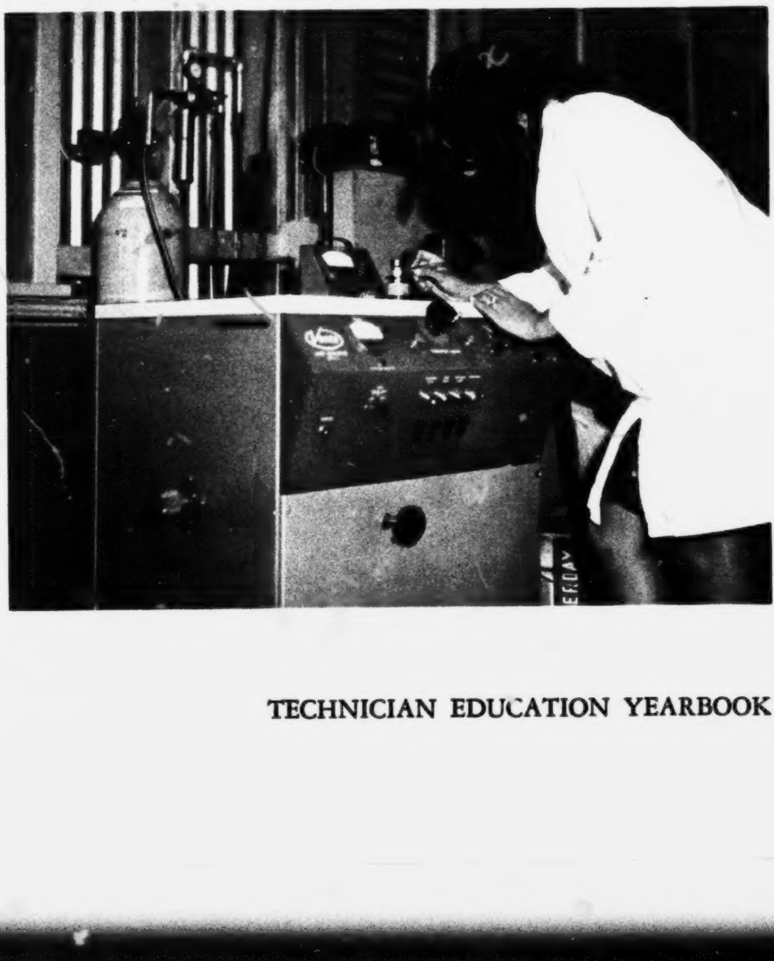
Also associated with the laboratory is a tool room containing a wide array of small hand tools and measuring instruments.

Over 200 different kinds of materials are required to cover the needs of the students if they are to

A vacuum technology student concentrates on metal deposition in the vacuum chamber.



Vacuum technicians learn leak detection techniques to find tiny leaks in vacuum components.



duplicate the techniques of industry. Large quantities of glass of many types and sizes are stocked as well as various metals ranging from gold-plated molybdenum wire to stainless steel plate. Fortunately, many of these materials are furnished without cost by the various industries.

Facilities for the Vacuum Technology Program alone consist of five rooms, each designed for a specific function:

Chemical Laboratory (180 sq. ft.)—consisting of two chemical sinks; a long laboratory table; storage spaces for beakers, chemicals, etc.; a power supply for electroplating; a drying oven; and an ultrasonic degreaser.

Clean Room (78 sq. ft.)—for final assembly and integrated circuit fabrications.

Main Vacuum Laboratory (approx. 1,000 sq. ft.) —which is equipped with hydrogen, oxygen, nitrogen, and compressed air at each of the working areas, as well as electrical and water outlets and drains for the vacuum stations and other equipment.

Material Stock Room (360 sq. ft.).

Lecture Room (640 sq. ft.)—which has a capacity for seating 30 students.

Entrance Requirements

Students entering the Vacuum Technology Program should have mechanical aptitude, show proficiency in mathematics, and be high-school graduates. An interest in science and a desire to work in a science-oriented environment are also important.

Community Cooperation

A program of this scope would be unsuccessful without the continued and enthusiastic support of the many participating industries. They have not only provided us with materials and equipment, but also information on certain processes; opened their facilities to student tours; provided guest lecturers and resource people; and taken an active part in curriculum planning and improvement. Nor are the guidance to individual students and the job placement of our graduate technicians to be overlooked as a part of their service to San Jose CC.

Another source of assistance has been the American Vacuum Society, both at the local and national levels. Because of the lack of knowledge which the average high-school graduate has regarding the work of vacuum technologists, the American Vacuum Society, at the national level, has provided six $100 scholarships to assist in publicizing the program. They are also preparing informational brochures on vacuum technology to be mailed to the various counselors and high-school seniors in those areas where vacuum-using industries are concentrated. The local American Vacuum Society acts as an advisory board and actively publicizes the Vacuum Technology Program.

Vacuum components require extensive and thorough chemical cleaning skill.

Program Success

In the two years the program has been in operation most vacuum technology students have been employed in the vacuum field on swing shift as operators of equipment before completing their first-year courses. Most of these students are less than one full year out of high school and have never worked in industry before.

The hiring interest of industry has been remarkable. Requests for graduates have come from out of state as well as locally. Local industries have even sent recently hired students from the program to recruit their fellow students. Our experience to date has been that all students of the program who desire to work as vacuum technicians are employed in the industry by the end of the first year. Starting salaries range from $500 to $575 per month and several former students have received draft deferments because of the importance of their work. The use of vacuum techniques by industry has been expanding at such a rapid rate that we have not been able to graduate a sufficient number of technicians to keep up with the demand.

Training Paper and Pulp Technicians at Itasca State Junior College

By Leo Keskinen

Director of Instruction,
Itasca State Junior College,
Grand Rapids, Minnesota

NORTHEASTERN Minnesota provides an excellent example of industry and vocational education cooperating in the establishment and conduct of a vocational training program.

In 1964, shortly after the establishment of the Area Vocational Technical School at Grand Rapids, Minnesota, representatives of the Pulp & Paper Industry of Northeastern Minnesota met with various local and state vocational educators to explore the feasibility of instituting a training program for pulp and paper workers based on area employment and training needs of the industry.

After this and subsequent meetings, a decision was made to seek state approval and to start a course to be called "Pulp and Paper Technology." An Advisory Committee was formed to assist in the development of the training program, and the first class of 20 students started training in March 1965. Although most of our students enrolled have been from the major paper-mill areas of northeastern Minnesota, student applications are even received from Canada and from overseas.

At the conclusion of the 1966-1967 school year, all vocational programs of the Grand Rapids Area Vocational Technical School were transferred intact to the Vocational Division of the Itasca State Junior College, also located in Grand Rapids. No changes in the Pulp and Paper Technology Program appear imminent as a result of the merger, as facilities and staff remain the same.

Cooperation by Industry

Four of the large paper mills in northeastern Minnesota are participating as main sponsors, but numerous smaller area mills have also endorsed the course and assisted in its development. The contributions made by the Pulp & Paper Industry have added substantially to the success of the program. In addition to technical assistance in course development, the industry has furnished numerous models and other training aids for classroom use and provided technical specialists as seminar participants and as guest lecturers on a variety of related subjects. Numerous class sessions are held in the local mill and field trips to other area mills are considered an essential part of the training. Probably the greatest contribution of the industry has been in providing two six-week periods of paid mill experience when students receive on-the-job training in various departments of the assigned mills. The four main participating mills are: the Blandin Paper Company, Grand Rapids; the Northwestern Paper Company mills at

Cloquet and Brainerd; and the Boise Cascade Papers at International Falls.

Admissions

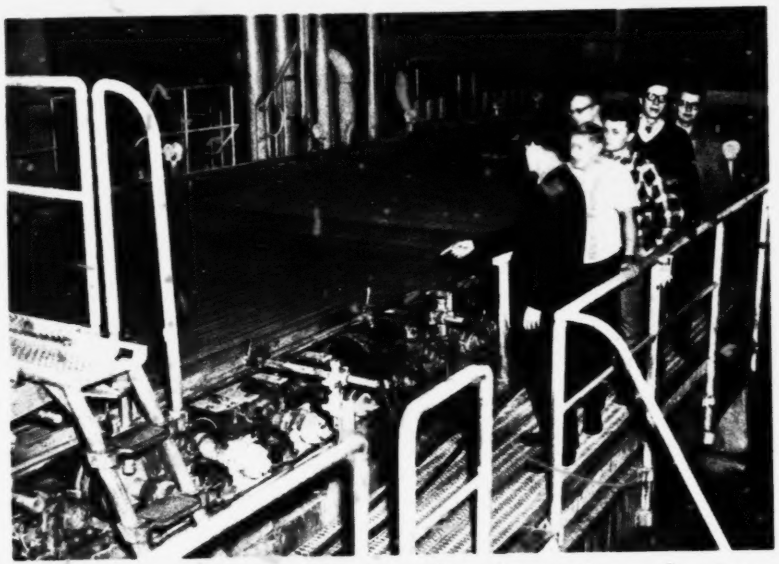
Students for the course are selected by admission interviews and pre-entrance tests. High-school graduates with advanced mathematics and chemistry are preferred, but consideration is given to all applicants as based on individual qualifications. A physical examination is also required. Paper-mill representatives have assisted in area publicity and in student recruitment.

Curriculum

The curriculum for the 11-month program includes the following:

FALL QUARTER

Techniques of Papermaking I
Electricity I
Related Math



Technician students observe the formation of paper sheet on Fourdrinier paper machine.

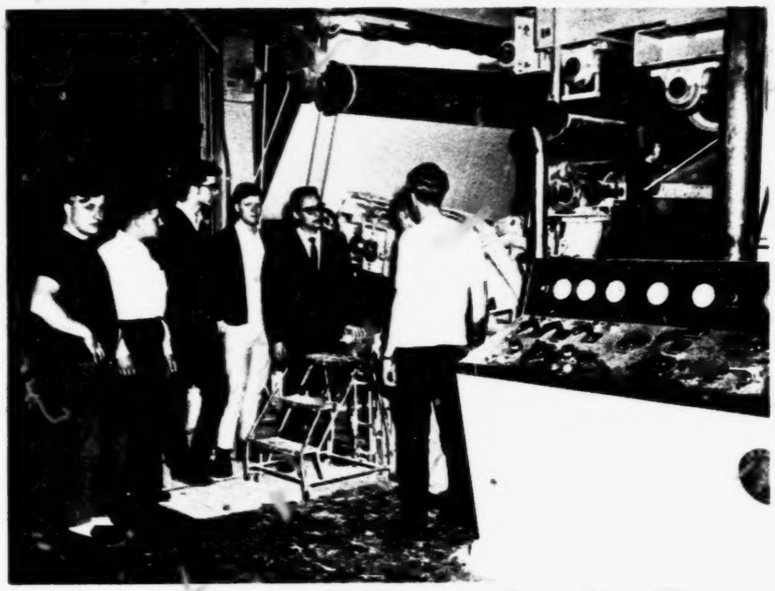
General Shop Techniques
On-The-Job Training (six weeks)
Seminar

WINTER QUARTER

Techniques of Papermaking II

Students in the paper and pulp technician program at Itasca State Junior College study procedures in the quality control laboratory. Pictures on this page and the following page were taken at Blandin Paper Company, a local firm that furnishes a team of part-time teaching specialists for the program.

Checking the unwinding of the paper roll as it enters the coater.



Students observe the application of coating to paper as it passes through the coater.

Industrial Supervision
Industrial First Aid
Union-Management Relations
Chemistry in Papermaking
Instrumentations
Seminar

SPRING QUARTER

Techniques of Papermaking III
Industrial Communications
Industrial Economics
Advanced Math
On-The-Job Training (six weeks)
Seminar

SUMMER SESSION

Techniques of Papermaking IV
Vocational Relationships
Technical Writing
Advanced Applied Science
Seminar

Staff and Equipment

Except for a short period of time when one full-time instructor was serving the program, the instruction has been taken care of by a team of part-time teaching specialists from the local Blandin Paper Company at Grand Rapids. A part-time coordinator works with the director in planning the program, and has the responsibility for teaching assignments to the team. Other specialists supplement the instruction at opportune times.

Numerous models are used in the classroom for the orientation and teaching of basic techniques. No other special equipment has been needed in the classroom, mostly because of the proximity of a local paper mill which is available for class sessions.

Employment

Every graduate of the program has, on completion of Itasca State JC's Paper and Pulp Technology Program, secured employment in the paper industry. The cooperating mills have made no guarantees to the class as to future employment, but have given priority to graduates in every instance to date. Graduates are being placed in various types of entry jobs—based on mill needs at the time of employment.

Future plans for the program call for additional specialist training precisely geared to specific job opportunities in the industry. Additional short courses and seminars will also be scheduled for personnel already employed.

Training Fire-Protection Technologists at Oklahoma State University Technical Institute

By Donald W. Brown and Gailord L. Sartain

Director of the Technical Institute and Head of the Fire-Protection Department, respectively, Oklahoma State University, Stillwater

THE Fire-Protection Technology Program at Oklahoma State University (formerly Oklahoma A&M College) is designed to provide students with sound technical and academic backgrounds enabling them to assume positions of responsibility as officers of fire departments or as technical employes of industrial concerns or insurance companies. It provides special training in detecting and eliminating fire hazards and causes through periodic inspections, remedial recommendations, and systematic follow-up; conducting year-round fire-prevention programs; determining the amount, type, and location of fire-fighting equipment for adequate protection; installing, testing, adjusting, and maintaining fire-protection equipment; and applying modern methods of industrial and municipal fire fighting.

The Fire-Protection Technology Program is one of nine programs offered by the Technical Institute at Oklahoma State University. The admission requirements are the same as they would be for any student enrolling in the University. An out-of-state student must be in the upper 50 percent of his graduating class, and Oklahoma residents must have maintained a *C* average or better in high school.

Unique equipment and testing facilities are required for the Fire-Protection Program. At the present time, our laboratories are equipped with sprinkler system setups, automatic fire-detection and alarm apparatus, various types of hydraulic equipment, pumps, gages, and extinguishers. New equipment is added each year to keep abreast of constant technological changes. Space is provided for testing the efficiency and capability of fire-extinguishing equipment, including pits where chemicals can be ignited.

The program is accredited by the Engineers' Council for Professional Development. An Associate Degree in fire-protection technology is awarded on successful completion of the two-year course. The curriculum is as follows:

FIRST YEAR

First Semester	*Theory*	*Lab*	*Credit*
Technical Mathematics	5	0	5
Fire Hazards and Causes	1	3	2
General Chemistry	3	3	4

Elements of Construction, Plan Reading, and Sketching	3	3	4
Municipal Fire Protection	2	0	2
			17

Second Semester

Personal and Occupational Guidance	1	0	1
Freshman Composition	3	0	3
Industrial Fire Hazards	1	2	2
General Chemistry	3	3	4
Basic Electricity, Codes, and Inspection	2	3	3
Fire-Extinguishing and Alarm Systems	1	3	2
American Industrial Development	2	0	2
			17

SECOND YEAR

Third Semester

Freshman Composition	3	0	3
Fire-Protection Hydraulics	1	3	2
Automatic Sprinklers	1	3	2
General Insurance	3	0	3
Challenges in American Democratic Life	4	0	4
Structural Fire Protection	2	2	3
			17

Fourth Semester

Applied Physics	3	3	4
Introduction to Public Speaking	3	0	3
Water Supply Analysis	2	0	2
Fire-Protection Application	2	3	3
Property and Casualty Insurance	3	0	3
Industrial Safety Engineering	2	0	2
			17

The program is administered by the Technical Institute's Fire-Protection Department, which also exercises supervisory control over a unique publishing operation specializing in the production of training manuals for fire departments and fire training schools throughout the United States and in many foreign countries.

The faculty of the Fire-Protection Department

Automatic sprinkler systems represent just one element of the training covered by the Fire-Protection Technology Program at the Technical Institute, Oklahoma State University. Two students are shown checking and re-setting a dry-pipe valve on a sprinkler system.

An instructor is shown helping students plot adequate fire protection for a particular industrial plant.

Three second-year students conduct a test to determine the burning characteristics of a wood panel.

consists of six full-time professionals. It can be difficult to find personnel with both the necessary technical competence and academic background, but as yet, faculty recruitment has not posed a great problem.

In recent years, enrolment in the program has numbered upwards of 42 students. Graduates have been placed in positions as industrial fire-protection specialists, safety engineers, fire insurance inspectors, inspection bureau representatives, fire-protection consultants, sprinkler contractors, state fire department instructors, and municipal fire department officers. Experience has shown that there are many more jobs available than there are graduates to fill them.

Salaries offered graduates from the associate degree program now range from about $550 to $650 per month. Students who continue their education and earn a B.S. degree following completion of their technical course work are being offered from $600 to $730 per month.

Training Agriculture Equipment Technicians at New York's A&T College at Cobleskill

By Edward B. Mott

**Chairman, Agricultural Engineering Department,
State University of New York,
Agricultural and Technical College,
Cobleskill, New York**

NOW automating American agriculture is a remarkably sophisticated array of machines—precision planters, selfpropelled combines, root harvesting units, windrowers, hay conditioners, and forage harvesters, to name but a few. Not only are these machines intricately engineered for specific tasks, but they are comprised of exceedingly complex components—high compression gas and diesel engines, automatic transmissions, supplementary hydraulic and pneumatic systems, power takeoffs. The job of keeping such equipment in operating trim is one of mounting complexity and increasing importance to the nation's economy.

At the Agricultural and Technical College at Cobleskill, N. Y., we offer a training program premised on the conviction that technicians who understand the engineering principles of the equipment are essential to the continuous performance and maximum output of these machines. It is increasingly apparent that equipment manufacturers, distributors, and operators require the services of growing numbers of technicians capable of working with them in maintaining and advancing the mechanization of the modern American farm.

Program Objectives

The A&TC program is designed to train men for the following range of occupational titles associated with Agricultural Equipment Technology:

Service Department
- Service Supervisor—dealership, branch, or distributor
- Company or Distributor Service Representative
- Serviceman
- Diesel Serviceman
- Hydraulics Serviceman
- Farmstead Mechanization Serviceman
- Set-up and Delivery Serviceman

Sales Department
- Sales Manager—dealership, branch, or distributor
- District Manager—dealership, branch, or distributor
- Farm Equipment Salesman—dealership, branch, or distributor
- Industrial Equipment Salesman—dealership, branch, or distributor
- Farmstead Mechanization Salesman—dealership, branch, or distributor
- Lawn and Garden Equipment Salesman

Parts Department
- Parts Supervisor—dealership, branch, or distributor
- Parts Salesman—dealership, branch, or distributor
- Partsman
- Warehouse Supervisor
- Warehouseman

Office
- Office Manager—dealership; Bookkeeper—dealership

Owner and Manager
Local Dealership; Distributorship

On-Farm Employment
Machinery Repairman; Machinery Operator; Contract Custom Operator

Student Selection

Students admitted to the program at Cobleskill should have had at least one year of high-school mathematics and one year of physical science, or completed a pretechnical program. In addition, a farm background and/or vocational-agricultural training is desirable.

The curriculum is designed for high-school graduates with special interests and capabilities, who can think in an orderly, logical manner. They must be capable of visualizing specific mechanical problems peculiar to the equipment studied, and they should possess the ability to apply analytical thinking in their work with the various types of machinery. A reasonable degree of maturity and seriousness of purpose as well as a desire and enthusiasm for their technical specialty are required if they are to master a difficult program and develop their capabilities to the optimum.

A&TC students gain experience in the use of a dynamometer which measures tractor's power output.

Curriculum

Each of the program's courses is planned to develop specific areas of the student's knowledge and skills, and each is integrated with other courses in the curriculum to provide a logical sequence of course work leading to the development of competent technicians. However, because of the speed with which technologies change and because of the rapidly changing requirements for technicians in agricultural equipment, it is imperative that the curriculum remain flexible. The extent to which we are able to prepare graduating technicians for immediate jobs in industry will depend on our ability to incorporate rapid changes in technological progress into curriculums which are flexible enough to accommodate them.

Our curriculum presently consists of the following:

Major Field Requirements	*Credits*
Technical Drawing	2
Lawn and Garden Equipment	3
Farm Power	4
Agricultural Machinery	4
Basic Welding	2
Advanced Welding	3
Agricultural Hydraulics	3
Agricultural Equipment I	3
Agricultural Equipment II	3
Agricultural Equipment Retailing	3
Agricultural Diesels	3
	33
Secondary Major Field Requirement	
Accounting for Specialized Business	3
	3
General Education Requirements	
English	6
Natural Sciences	6
Health and Physical Education	2
Social Sciences	6
Psychology	3
	23
Electives	9
	9
Total	68

Course Relationships

While the students are advised as to the proper pursuance of the courses in the sequence listed, there are no definite prerequisites for any course. All courses in the major field, with the exception of agricultural equipment retailing, have laboratory requirements. For example, agricultural machinery and farm power have four-hour laboratory periods while technical drawing and basic welding have two-hour laboratory periods. A two-hour laboratory period is given equal credit to one classroom hour.

In general, the subject matter in the curriculum is carefully correlated in groups of concurrent courses. This is in sharp contrast to the arrangement of professional curriculums in which basic and somewhat unrelated courses make up the first part of the study program and in which specialization is deferred until subsequent terms.

In technical curriculums, it is mandatory that specialized technical course work be introduced in the first semester. Delaying this introduction, even for one semester, imposes serious limitations on the effectiveness of the total curriculum. Several important advantages accrue from the early introduction of the technical specialty:

1. Student interest is stimulated by practical aspects of instruction.
2. It is possible to obtain greater depth of understanding in specialized subjects in the latter stages of the two-year program.
3. Practical applications of mathematics and science are made throughout the technical courses.

Also, it should be kept in mind that further on-the-job training in his special area of employment is necessary after the graduate of this program has found placement. This type of training is provided by all major farm equipment companies today and is available to workers at the dealership as well as at the company level.

In the first semester of this curriculum, the courses have been designed to supplement each other as well as to provide a basis for study in subsequent semesters. For example, the knowledge and skills learned in technical drafting can be utilized in courses occurring in later semesters—e.g., agricultural hydraulics and farm power. Welding skills obtained in the welding courses are used in the repair phase of the agricultural machinery course. The physics course provides the scientific background for specialized studies in electricity, gas engines, diesels, and hydraulics.

Agricultural-equipment courses use an array of special devices for testing milking machinery.

The tractor is the basic machine in farm and light industrial mechanization. In farm power, a second-semester course, the student learns the basic principles of the gasoline engine and how to repair and service gasoline tractor engines.

Because of the increasing use of mounted and hydraulic-controlled equipment, hydraulics are a vital part of today's farm and light industrial tractors. The course in agricultural hydraulics presents the basic principles of hydraulic power used in these tractors.

The course in agricultural farm machinery deals with planting equipment, tillage machines, and with harvesting units. Laboratory work in the course includes field operation and adjustment of the various machines studied. Other laboratories emphasize principles of operation, set-up, predelivery service, and repair work.

The methods of keeping and interpreting business records and accounts are taught in the special accounting course during the first semester in order to provide the students with an early grounding in the bookkeeping and cost-analysis aspects of the farm machinery business.

Agricultural equipment I and II are designed as a survey of materials-handling equipment sold and serviced by many farm machinery dealers. The student learns the basic types of equipment available as well as the servicing and installation of this equipment.

Most farm machinery companies have recently developed lines in lawn and garden equipment. A course in the principles of operation and servicing of this type of equipment is offered in the second semester.

Since the graduate of this program will assume a role in society, courses in communication skills, economics, and American community have been included. These courses enable the student to become a better informed citizen and assist him in communicating with others.

Resulting Proficiency

As a close study of the foregoing will serve to attest, the technical content of the program has been structured to provide the graduate with the training needed to:

- Use principles of physics and mathematics as they apply to the operation of engines and farm equipment in relation to such things as ignition systems, horsepower requirements, and speeds of various types of farm machines.
- Analyze and interpret information obtained from such testing devices as a dynamometer, the diesel pump test stand, and the various electrical testing units used on farm tractors and equipment. This requires evaluation based on charts accompanying the equipment, data found in service manuals, or both.
- Analyze and diagnose special problems which relate to specialized areas, such as hydraulics.
- Demonstrate machines to potential buyers; show operational features to new purchasers.
- Determine when parts in a given machine need replacement; use precision measuring devices to determine amount of wear and to position new parts.
- Locate malfunctions in a given machine and make repairs quickly and efficiently.
- Use knowledge of the machines and business practices to order, inventory, display, and sell parts for farm equipment.

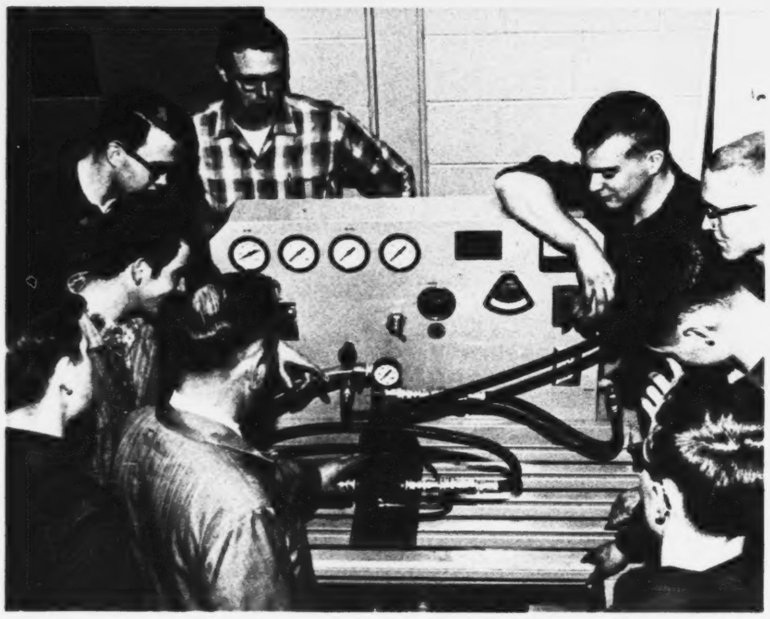
Instructional Facilities

Among the facilities supporting the program are two large machinery laboratories equipped with doors 16′ wide and 14′ high to provide access for harvesters, combines, and other large units. These laboratories facilitate the program's agricultural machinery, farm power, and related courses.

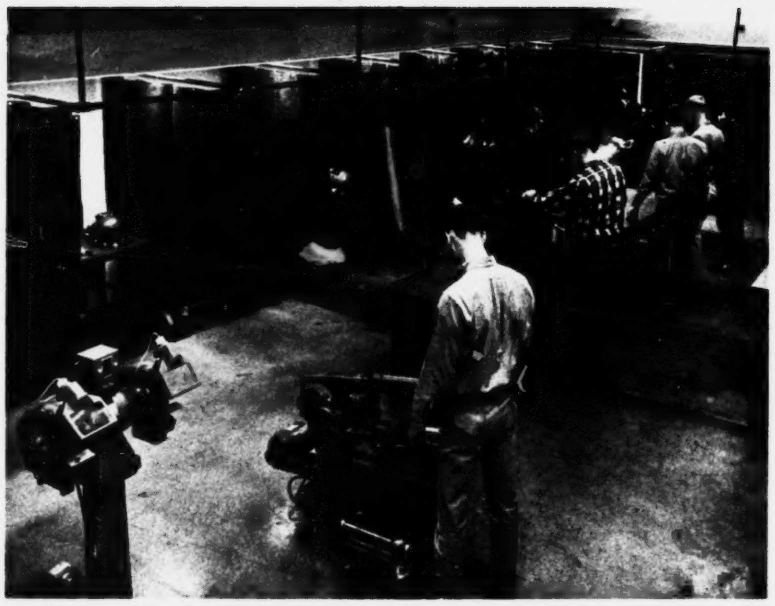
Laboratory floors are grease resistant and impervious to water. A trench drain is an acceptable provision for making it possible to hose down the concrete floors. A continuous overhead track permits elevation as well as quick movement of heavy objects to another location within the laboratory.

Students remove sleeves from a tractor with a hydraulic puller prior to installing a new power kit.

Indepth instruction in fluid power is reflected by this lecture on the hydraulic test stand.



The electronics laboratory plays an important role in a number of the agriculture-equipment courses.



A spacious welding laboratory is another of the fully-equipped facilities supporting the program.

A highly specialized room for painting is provided. It has adequate door openings for large farm machines and provides a dust-free environment.

The welding area is fire resistant and has a ventilation system that insures immediate removal of welding fumes. The student stations are separated by fireproof curtains.

The hydraulics laboratory is equipped with training units for instruction in circuits, testing devices, and numerous types of diagnostic equipment.

The laboratory for teaching electricity and electrical controls contains both single- and three-phase service. Student work stations are wired for both 115- and 230-v current so that various kinds of circuits can be assembled. Plywood panels are provided for wiring exercises so that students can gain experience in approved wiring practices.

The diesel engines laboratory incorporates several custom features, including special light fixtures and exhaust outlets capable of accommodating 10 to 12 engines.

The facility has built-in provision for the proper storage of tools, especially those which are the most complex and costly. It also provides for a separation of classroom and laboratories by means of an intervening corridor. This is a most important consideration in the muffling of the laboratory noises that might reach the classroom.

All areas which include such operations as welding, painting, planing, sawing, and sanding where heavy concentrations of dust and/or fumes are likely to occur are equipped with removal devices.

Placement

As part of a recent research study, significant statistics were gleaned as to the placement of graduates of the program during the years 1959 through 1963. This five-year survey showed that the percentages of graduates entering nine different post-program (including occupational) areas were as follows: 37.5 in service departments, 6.3 in sales, 4.3 in parts, 8.3 in materials handling, 4.2 in light industrial, 14.6 in farming, 7.7 in other occupations, 3.9 accepted for continuing higher education, and 12.2 undecided as to which opportunity to accept.

In its summation, the study noted that a five-year average of more than 75 percent had found employment in one of the six categories specifically comprising technological placement—i.e., service, sales, parts, materials handling, light industrial, and farming. Exclusive of farming, the five-year average was approximately 60 percent.

With such percentages marking the placement picture, it would seem reasonable to conclude that the program has been doing the job it was designed to do.

Technical Education and Society

By Edmund J. Gleazer, Jr.

Executive Director,
American Association of Junior Colleges,
Washington, D.C.

THE vast potential of technical education is not fully realized. The low prestige value or lack of acceptance of technical education is a major problem. In this country and in many countries abroad the university with its baccalaureate programs is the desired educational objective. Technical programs are chosen often reluctantly as second best options.

Recently community colleges have been established in large cities. It had been expected that many students from underprivileged families would enrol in occupational programs. The results have been disappointing because these students who wish with such fervor to move up the economic and social ladder are not convinced that the occupational or technical routes facilitate their progress.

Terminology has often been responsible for downgrading of technical education. Familiar phrases are "less than college-grade" and "less than degree-length." People, particularly young people, appear to have some antipathy toward "less than."

The United States Office of Education has not included persons enrolled in occupational programs in its annual fall enrolment figures nor has it counted persons who have received the associate degree in its statistics of degrees conferred. Such procedures convey, intentionally or not, the view that occupational programs are not part of the higher education enterprise.

Differentiation between occupational and transfer students appears to rest on whether they are weak or strong. The student who does not intend to transfer to a four-year institution gets the impression that he is of lesser ability and carries a stigma of inferiority.

How many high-school counselors discuss with their students the appropriateness of technical programs? Is not the "quality" of the high school and incidentally of the counselor often thought to be judged in terms of the number of students who move into four-year programs?

College and university representatives visit high schools to recruit students. Are prospective students given information about the advantages, the rewards, the values of technical or occupational curriculums which lead directly to employment?

How many foundations have established scholarship programs for outstanding students in technical fields? What foundation or government supported program for either the student or for teachers in these fields has given indication that the leadership personnel of either government or the foundation is convinced that these fields of study are important?

The Advertising Council's public-service effort to motivate people to give to the college of their choice was of necessity broadly representative of the college community. But the picture which was indelibly formed in the minds of the millions who heard or saw the constant reminders of the need for colleges in our society was that of the four-year institution. The baccalaureate offerings came through as the desirable goal. No reference was made to the fact that *for perhaps two-thirds of the high-school graduates an associate degree was a more appropriate intial objective.*

To Alter Society's Perceptions Requires Explicit Action

Assuming that it is good public policy for a much higher proportion of America's high-school graduates to enter occupational programs and that increasing the prestige of these fields will be a persuasive factor, I offer these proposals:

- Develop the concept that the occupational program prepares for job *entry.* A lifelong commitment is not necessary to the field. Indeed, education and training will be lifelong.
- Urge curriculum planners to devise open-ended, broadly based programs so that the student can maneuver within his field as his interests and objectives change.
- Encourage national foundations to establish programs which recognize the worth of both the teacher and the student in technical fields.
- Work with counselors so that they talk with students and teachers and parents in terms of different kinds of ability rather than gradations of ability. Some occupational programs require academic abilities quite similar to those required of the transfer liberal-arts student. Others require capabilities in manipulative skills sometimes not possessed by the student who is strong in abstractness and verbal reasoning ability.
- Urge the United States Office of Education to recognize the validity of the associate degree as representing two years of collegiate level study which does not necessarily lead to transfer and a baccalaureate objective.
- Encourage the American Council on Education through its program and commissions to recognize the social worth and the appropriateness of technical education.
- Establish a program of public interpretation of the value of occupational programs in the community college. The stereotype of the four-year degree as an almost universal objective must be changed. For most high-school graduates it is obviously not a desirable initial objective.

Making Technical Education Responsive to Changing Society

The pace of change poses real problems for technical education. What will be the manpower requirements five years from now—10 years from now? How can teachers be prepared, facilities planned, curriculums developed, students counseled unless there can be better forecasts than now exist?

In a recent study of student personnel programs in junior colleges, Dr. Max Raines found that the weakest elements in the junior colleges with the best student personnel services were occupational counseling and placement services. Both of these represent points of contact with real life conditions in the employment fields. Such deficiences strongly suggest that there is a lag between the education experience of the student in the classroom or shop and the requirements of the job into which he is moving.

Roger Garrison in a study of the junior-college faculty member finds that the greatest concern of the teacher is that his "intellectual capital" is not being replenished. Teachers in the various technologies also need "intellectual capital." Some of this consists of a knowledge of the requirements, changes, concepts, personnel, and literature in the occupational field he is teaching.

I have these suggestions for action:

- Step up efforts to identify, recruit, and prepare administrative leadership for community colleges. There is required a high order of administrative ability to establish communication with the environment of the college as well as to see to the organization of a system of intelligence which will provide information necessary for indicated change.
- Greatly expand the few efforts now extant for identification, recruitment, and preparation of teachers in the occupational fields. Such activities should

involve colleges or universities with graduate programs, community colleges, and the occupational community. Not only are foundation funds needed, but the federal government should underwrite the preparation of thousands of the qualified teachers needed. Federal measures have been limited largely to graduate fellowship programs that move the teacher into university or college teaching or to qualifying the teacher for elementary and secondary teaching.

- Explore, with the cooperation of occupational representatives, the feasibility of expanding such programs as the General Electric Company summer institutes conducted in connection with Syracuse University, designed to acquaint high-school guidance personnel with actual conditions in industry. The GE plants at Electronics Park have been used so that the counselors get a realistic and up-to-date view of job requirements in this day of rapidly changing technology.
- Urge occupational groups (employers) to provide either summer-school working opportunities or leave-of-absence jobs so that teachers in occupational education have frequent experience in the field for which they are preparing personnel.
- Work with occupational fields toward an arrangement similar to that of the visiting scientist under National Science Foundation funds. Arrange for a competent representative from an occupational field to spend two or three days or even a semester in residence at the institution or in visits to a series of institutions. This procedure has worked well with physicists, psychologists, chemists, etc. It would be equally helpful if it included representatives of employers in the semiprofessional and technical fields.
- Encourage the Department of Labor to expand its services in regional and local manpower studies and to keep such information current and available to institutional planners.
- Greatly expand "work experience" programs. The community college, located as it usually is in a city, has a built-in asset in its proximity to the occupational life of the community. In some community colleges 60 percent of the students are working part time. There are distinct advantages to their working at jobs related to their training. Good planning and coordination are required. However, not only are there distinct values to the student from the standpoint of on-the-job experience which gives realism and motivation to his classroom work, there is the added value of assuring that the college program is tested daily in the actual work setting. We should give consideration to a dramatic increase in work experience programs.

How Can Potential Users of Technicians Be Moved to Utilize Them?

We have been concerned that employers have demonstrated either reluctance to utilize technician personnel or have not known how they can be utilized. That situation is changing fast. Effective and efficient utilization of resources often is correlated with scarcity of those resources. The tremendous assignments ahead for society demand utilization of people in accordance with their training. The various health fields offer a vivid illustration of what will happen in other occupations.

The American Association of Junior Colleges has joined with the National Health Council which represents some 70 health agencies to further a close working relationship between health practitioners and educators in the junior-college field and to facilitate and stimulate the development of educational programs in the health technological fields.

A short time ago I received a letter from the executive director of the American Society of Planning Officials expressing the view that semiprofessional personnel were urgently needed in various aspects of city planning and managing.

Under a grant from Sears-Roebuck Foundation, AAJC and ASPO co-sponsored a conference to begin joint explorations in the educational fields involved. Now the focus is broadening toward what might be described as an "Associate Degree in Urban Administration."

It is apparent that there has been a notable change in the employer's view of the semiprofessional or technician as the pool of qualified manpower has shrunk in inverse proportion to society's demand for services.

A final illustration to drive the point home. A representative of the International Association of Chiefs of Police has told us that, because of the great pressures developing among law enforcement officers for upgrading, the community college is looked to for help. AAJC is urged to join with IACP in bringing together the law enforcement agencies and junior-college representatives to plan suitable educational programs.

Potential users of technicians are looking toward persons so trained with real hope. These appeals for help from employers represent a dramatic change from a period of a few years ago when it was difficult to stir up interest in the role of the technician. Now the question deals with their effective utilization.

Here are a few proposals for action:

- Establish a working relationship with employers and their organizations.
- Encourage training institutions to provide for working relationships between the professional and the technician in the training process. Montgomery Junior College in Maryland has had support from the United States Public Health Service for a program to prepare dental assistants. These trainees have worked with the dental students at Georgetown University. Dentists graduating from that institution want dental assistants and know how to utilize them. Could these procedures be adapted to other fields?
- Establish well organized work-experience programs . . . the instructional advantages of which have been touched on previously. Additionally, the shared effort of institution and employer required will result in utilization of the technician along the lines of his training.

The Need for Improved Communication in All Spheres

It is clear that publicly supported educational opportunity for all in this country will soon include two additional years beyond the high school.

The kind of educational programs we are discussing are a part of that change. The National Commission on Technology, Automation, and Economic Progress, established through an act of Congress in 1964, presented its report to the President and members of Congress a short time ago. Among recommendations dealing with education was one which described the kind of institutions we are discussing here:

> The key institutions would be area technical schools and community colleges . . . The two types of schools might in many instances be merged into community education centers offering both the theoretical foundation of trade, technical, and business occupations and the opportunity to "learn-by-doing" while pursuing a liberal education or semiprofessional training.

A diversification of education beyond the high school is called for. The society in which we live is demanding services which can be provided only by a broader spectrum of occupations. The world of occupations is saying to the community colleges of the country—send us people not only qualified as technicians but as persons. A careful analysis of the field of our concern today leads to a grim but inevitable conclusion that the center of greatest resistance to fulfillment of community-college potential in technical education is in the educational community itself.

With all of its advantages of proximity to the high schools of the community, the junior college as a whole has not done a good job in communicating with these institutions. Perhaps there has been a fear that the collegiate institution might be viewed as a "glorified high school" if the relationship were a close one. For whatever reason, the high schools and community colleges which have established effective articulation are exceptional. And this is particularly true in regard to the student who will choose an occupational program.

Another high wall appears to exist between the occupational programs and personnel of the community college and the programs and personnel of secondary vocational education. As vocational education has moved to post-secondary levels in many fields, a spirit and organization for communication between the secondary vocational educator and community-college personnel generally has not been developed. This is often true at local levels, frequently at state levels, and even at the national level. Incidentally, another aspect of this problem of communication may exist between the "academic" and occupational personnel on the same college campus. Common interests are only beginning to be recognized.

We cannot leave the problem of communication without some reference to the university or four-year college. A great deal has been done in articulation between two-year and four-year institutions for the purpose of facilitating transfer. But little has been done to develop mutual understandings in regard to the occupational programs of community colleges. Very few universities prepare teachers or administrators for this educational function. A number of universities were contacted by a staff member of AAJC a few years ago to ascertain interest in stepping up efforts to prepare junior-college teachers. There was enthusiasm for programs to prepare these teachers—if they were to move toward the doctorate and teach the transfer type courses. But, in general, graduate deans were not all sure that faculties could be persuaded to have an interest in preparing teachers for semiprofessional and technician type programs. And the question is still put to junior-college people by their colleagues in the four-year institutions and universities when controversial issues arise such as specialized accreditation and professorial ranking and academic senates: Do you want to be considered higher education or not? The notion appears to be, either you emulate the university in your policies and practices and programs or you are not of the fellowship of higher education, and if not of this fellowship then we cannot understand each other. Perhaps these are harsh words, but, regretfully, communication has been so deficient that the description has a basis in fact.

I have said enough to reveal my conviction that the greatest communication problem technical-education personnel confront is in their own educational fraternity. Here, in long existing concepts, definitions, terminologies, academic structures, prestige symbols, lie the most resistant forces to the full emergence of technical education in the junior college. Recent problems with federal enactments would not have occurred if higher education had spoken out with a clear, confident, and understanding voice about specialized accreditation as it applies to occupational programs.

If a big part of ineffective communication is in the educational realm, what action can we take? I suggest in approaching possible solutions that we think about communication as having its basis in shared experience. Words come to have similar meanings if they are based on common experience.

Here are some proposals:

- AAJC and the American Vocational Association hold a series of conferences to examine common interests and problems, looking toward cooperative activities where appropriate.
- In each community college, occupational-education personnel take initiative in arranging regular meetings with their secondary-school counterparts for exchange of views, information, and advice toward improved communication.
- Establish a working relationship of talented people from the occupational fields, the universities, and community colleges to give sustained and organized attention to new curriculums in the occupational fields. A prototype of the scale of this effort can be found in the new approaches formulated to physics and mathematics during the past few years. My concern is not only with improved curriculums but also with the quality of interaction which could take place among the personnel involved. This would be one way to identify and utilize a cadre of outstanding leaders.
- Improve the use of advisory committees. The most significant kind of communication for the community college is at the local level. Some institutions have done this well. Many need assistance so that such groups are more than "window dressing." A strong advisory committee for each occupational program ought to result in not only a realistic and up-to-date curriculum, but in effective interpretation of the college to the community and of the community to the college. Placement and follow-up, two essential tasks, are further facilitated by such committees.

We are joined by our genuine and common concern that appropriate educational opportunity beyond the high school be provided for all of those who can benefit by it. We are interested in job preparation because we know that in our society what the person does—his job—has a lot to do with who he is—his sense of identity . . . besides providing him with income and society with essential services. Our purpose is to find better ways to improve our work.

Our aim is not consensus but competence.

(EDITOR'S NOTE: The foregoing article, which also appeared in SCHOOL SHOP, June 1967, was first delivered by Mr. Gleazer as an address before the Technical Education Conference held in St. Louis under the co-sponsorship of the American Association of Junior Colleges and the Midwestern Technical Education Center.)

Tooling Up for the New Technical Education

By Douglas F. Libby, Jr.

**Vice-President and Campus Director,
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and St. Louis County, Missouri**

I AM confident that the vast majority of the readers of this article are aware of the tremendously increasing demands of business, industry, and the professions for more and better prepared technical personnel. Furthermore, I believe that you are equally aware of the many problems facing us as we attempt to meet these demands. It is becoming more and more evident that the methods and procedures of the past are just not going to be adequate for the future preparation of our technical personnel.

The purpose of this presentation is to identify some of the new and experimental approaches that seem to offer at least partial solutions to our growing educational problems, especially as they apply to occupational programs. Although the topics and examples to be discussed are directed primarily toward post-high-school technical programs, many of them are just as applicable to the junior- and senior-high-school levels.

Before presenting some of these newer approaches, it might be well to review briefly some of the factors that are directly related to the ever mounting demands for more and better technicians and for more effective ways of training them.

The enrolment trends in the educational institutions of this country are familiar to all of us. However, it may help to sharpen our realization of the impending pressures on our junior and senior colleges and universities to note that, as the general population undergoes an anticipated 40-percent increase during the 20-year period from 1950 to 1970, a 50-percent increase is foreseen in the college-age population. At the same time, the percentage of high-school graduates enrolling in our colleges will be increasing by about 233 percent. The implications of these percentage increases, especially when compounded, are selfevident.

Of the many factors underlying these enrolment trends, only a few will be mentioned here:

- *Economic*—such as: increased prosperity and availability of money for education, government aid programs, and increased lifetime earnings.
- *Social and political pressures*—including: the rising aspirations of our general population for a college education, and the demands of our democratic system which depends on a well educated citizenry.
- *Technological advances*—exemplified by the following statement attributed to Secretary of Labor Willard Wirtz by *The Junior College Journal:* "The machine now has a high-school education in the sense that it can do most jobs a high-school graduate can do. So machines will get the jobs because they work for less than a living wage. A person needs 14

years of education to compete with machines."

- *National employment trends*—as depicted by the accompanying table. It is significant to note that the greatest percentage increase is earmarked for the group encompassing technicians and kindred workers.

Still another factor concerns knowledge itself. The increasing rate of availability of new knowledge and the attendant rate of obsolescence of current knowledge are forcing additional responsibilities on educators to keep abreast of these changes.

Not only must we keep up with these changes so that curriculums can be kept up to date, but we must also be ready to apply this knowledge to related areas which lead to more effective utilization of our physical facilities and personnel as well as to improving our methods of instruction.

Computerized Planning

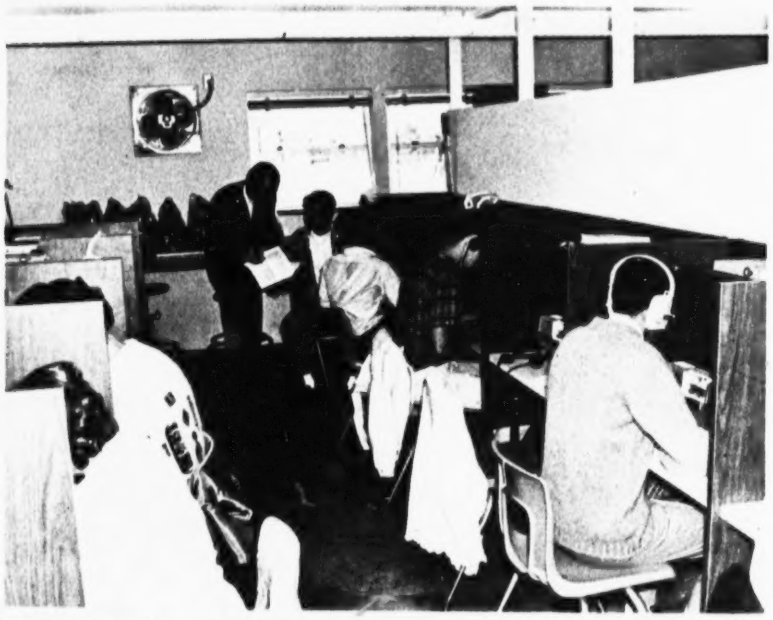
As new buildings and campuses are being designed and constructed, full advantage should be taken of available computer techniques capable of helping us determine the most effective use of the number and kinds of spaces that should be provided. An example of such an application may be cited from a project undertaken by the Junior College District of St. Louis—St. Louis County, assisted by the Automation Center of McDonnell Aircraft Corporation. The parameters for a comprehensive community-college program for 4,500 students were fed into a computer which then provided the necessary information to build a physical plant heavily oriented toward technician training which would permit 60-percent and 80-percent utilization of laboratory and classroom spaces, respectively.

There are other procedures which can yield more effective and efficient use of available space . . . such as the employment of multi-purpose laboratories and "open laboratories." While the former can now be found in rather widespread use, the latter—some-

Employment by major occupational groups and projected requirements for 1975.

	1947		1964		1975	
MAJOR OCCUPATION GROUP	In Millions	Per-Cent	In Millions	Per-Cent	In Millions	Per-Cent
TOTAL EMPLOYMENT	57.8	100.0	70.4	100.0	88.7	100.0
White-collar workers	20.2	34.9	31.1	44.2	42.8	48.3
Professional, technical, and kindred workers	3.8	6.6	8.6	12.2	13.2	14.9
Managers, officials, and proprietors, except farm	5.8	10.0	7.5	10.6	9.2	10.4
Clerical and kindred workers	7.2	12.4	10.7	15.2	14.6	16.5
Sales workers	3.4	5.9	4.5	6.3	5.8	6.5
Blue-collar workers	23.6	40.7	25.5	36.3	29.9	33.7
Craftsmen, foremen, and kindred workers	7.8	13.4	9.0	12.8	11.4	12.8
Operatives and kindred workers	12.3	21.2	12.9	18.4	14.8	16.7
Laborers, except farm and mine	3.5	6.1	3.6	5.2	3.7	4.2
Service Workers	6.0	10.4	9.3	13.2	12.5	14.1
Farmers and farm managers, laborers, and foremen	8.1	14.0	4.4	6.3	3.5	3.9

Source – Manpower Report of the President and A Report on Manpower Requirements, Resources, Utilization, and Training, by the U. S. Department of Labor, March, 1965.



Flexibility in scheduling is facilitated by use of "open laboratories," pictured here in Florissant Valley Community College of St. Louis Junior College District.

times referred to as "unscheduled laboratories"—seem to be just coming into their own. As the terminology implies, students using an "open lab" are not obliged to pursue their laboratory work during a regularly scheduled time. Instead, the laboratory is open and the necessary equipment is available for student use throughout the school day. The implications for better space- and equipment-utilization are readily apparent. This method has been in use here within the JCD for nearly three years now, starting with biology the first year, later expanding into chemistry, physics, and most recently into the mechanical and electronic engineering technologies.

Our utilization of human resources is perhaps an even more critical area. Not only must we be concerned about increasing the supply of teachers, counselors, and administrators, but we must also concentrate on the implementation of methods and procedures that will use to the very best advantage the personnel now available. This will require the expansion of such concepts as team teaching along with related methods using laboratory assistants and teaching aides. Unfortunately, we still are making inadequate and inefficient use of the professional capabilities of our staffs. They are expected to perform many clerical and other semi-professional and routine tasks that could and should be performed by support personnel. Business and industry have found that they cannot make such extravagant uses of their professional personnel.

There are, of course, many other methods of making better use of our teachers and support personnel that cannot be discussed here, due to space limitations. However, there is one that seems to warrant some attention. I am referring to the efforts that are being made to provide more opportunity for independent study by our students, as well as more liberal policies toward credit by examination. Examples of the work being done in these areas will be given later when instructional innovations are discussed.

Before getting into specifics, it should be emphasized that the necessary resources must be provided if the desired advances are to be made. The business or industry that does not provide a substantial portion of its operating budget for research and development work does not long remain in a competitive position. In education we do not have the strong profit motive apparently required to justify large investment in research and development. Production, or lack of it, in the education process, is extremely difficult to measure. Nevertheless, it seems incomprehensible that so little financial support is given to research and development in such a tremendous "business" as the educational system of this country. Maybe, as we do begin to spend some of our money for these purposes, it will become painfully apparent that we are just not being nearly as "productive" as we should be in this day and age. Of course, there are many excellent research and development projects and programs being conducted in our more "enlight-

A student in an "open laboratory" carrel listens to taped material for individualized studying. An instructor is near at hand for personal help.

ned" districts throughout the country. However, these need to be multiplied manyfold.

The Board of Trustees of the Junior College Dis-rict of St. Louis—St. Louis County has become convinced of the need for providing funds for research nd development. Through a budgetary allotment of 4 percent of the total professional salaries, "released ime" from classroom and other duties can be provided the staff for experimental and developmental work.

Obviously, the availability of funds for this purpose has stimulated a large number of experimental projects and related activities. Many of these attempts at innovative approaches will be referred to below, not because they may be better or hold more educational significance than those being attempted at other institutions, but simply because they are the ones with which the author is most familiar.

The major emphasis here concerns the uses of the newer technological devices, rather than those educational methods not requiring such devices. However, there are several of the latter types which should be mentioned in addition to the previously noted "team teaching" and "independent study" techniques. For example, there is the "work-study" concept, accenting multiple use of available resources. Not only is this more effective in the use of school equipment, but business and industrial resources are simultaneously made available for student use. And still another approach which should be introduced, since it may or may not require the use of specialized technological devices, is programed learning. Instructional equipment such as tape recorders and computers may be used with this technique, or the non-technical "book" form may be used.

Technology-Based Tools

The "open laboratory" method of instruction and the programed learning approach both serve as excellent transition topics as we move from those experimental methods not using technological devices to those that do.

As mentioned earlier, open laboratories may be conducted simply by "freeing up" the scheduling of a conventional laboratory, with only minor modification of the instructional materials to be used. However, in some instances—in our JCD course called "audio-tutorial biology," for example—extensive use is made of tape recorders and various kinds of projectors, in addition to a specially prepared audio-tutorial laboratory manual.

One of the most successful technological devices currently in use in the JCD is a dial-access system. This audio system consists of cartridge-loaded tape recorders, electronic switching mechanisms, and telephone-type dials. Students dial into the assigned lesson at remote stations and listen to taped materials which have been previously prepared by the teaching staff. Employing equipment which features automatic rewinding for replay, this system has proved particularly useful in providing supplementary course materials, as well as in presenting much of the repetitive basic elements of course content. Although all of the work within the JCD on this system to date has involved audio tapes only, we are rapidly approaching the time for extensive video-tape applications.

Also available to the staff are some of the newer types of responder systems which permit an instructor to be essentially in contact with each individual student within a group situation. The newer models of these systems are including additional functional operations that make them particularly useful in lecture-demonstration classes.

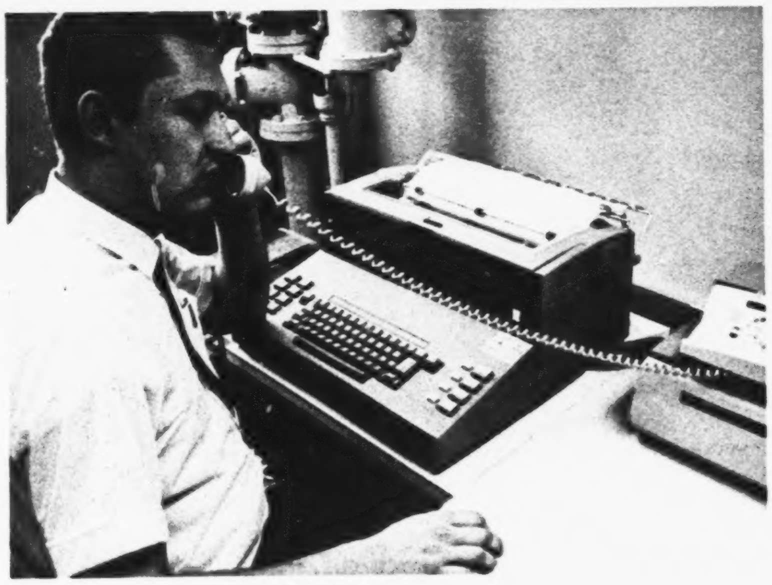
Educational television has undoubtedly had more publicity and financial resources devoted to it than any other recent technological device. Unfortunately, much of the earlier experimental work and subsequent notoriety have not been particularly helpful in the progress toward the realization of the potential of television as an educational tool. However, with the advent of comparatively inexpensive portable camera and recorder units, there seems again to be real hope of using television as a major supplementary teaching aid. Several portable television projects are currently under way at the JCD including: a closed-circuit programed-learning sequence in physics (supported by a USOE grant), the video-taping of student speeches for immediate replay in public speaking classes, and the microscopic video projection of biology demonstration experiments.

Projectors of various types have been available for many years. However, newer uses are constantly being found for the older types (e.g., 16mm, opaque, slide, filmstrip, etc.) as well as newer types which have more recently become available (e.g., 8mm cartridge, closed loop, overhead, etc.). Although projectors and tape recorders are not necessarily the most sophisticated types of the new technology, they are still the most often used whether singly or as basic components of the more complex systems.

Computerized Instruction

The last application of technological devices to be discussed is perhaps one of the newest, undoubtedly one of the most complex, and certainly one of the most promising of all recent developments. Of course I am referring to the modern-day third-generation computer. Although only a relatively few experimental educational projects using the computer as a teaching tool have been initiated, the day is rapidly approaching when instructional applications will match the importance of such administrative uses as student and faculty record keeping, accounting and cost control, building design and construction, and institutional research.

Until recently the faculty members at the JCD have had little opportunity for experimentation in this area. However, two remote terminals for an IBM 360 are now installed at two of the campuses for just such experimentation. Moreover, several in-service training workshops have been staged for faculty benefit and there seems to have been considerable enthusiasm generated for moving in this new direction. One of the more promising projects to date relates to the potential uses of the computer for independent study, particularly in the area of programed learning.



Computer terminal and data phone by which Florissant Valley Community College students and faculty are connected to a computer at a local industry. The computer is used in data processing instruction and in varied experiments with computer-assisted instruction.

We can readily see from the above discussions, as well as from other considerations, that "hardware" of the kinds and sophistication that we had not anticipated only a few years ago is now available. Still, business and industry are feverishly working to provide us with even greater hardware developments. We have also alluded to the apparent lag between the availability of this hardware and its ultimate application to the educational scene. Perhaps one of the most serious obstacles to full utilization of today's technological devices is the serious lack of good-quality software to accompany the various types of equipment. Although commercial firms are making efforts in this direction, they have not demonstrated exceptional capabilities for this job. The most effective materials have been and probably will continue to be those developed by teachers in actual classroom and laboratory situations.

Once more it must be emphasized that the necessary time, support, personnel, and other resources must be provided for our faculties to develop and refine this software if we have any hope of making optimum use of the available hardware.

Current Approaches "Inadequate"

It seems apparent from the foregoing that the enrolment projections plus the advances in available knowledge will be exerting tremendously increasing pressures on our educational system during the foreseeable future. It also seems rather obvious that our current approaches to our instructional problems are wholly inadequate if we are to provide our youth with the kinds of educational opportunity that our society seems to be demanding, particularly in the realm of technician training.

There is no question in my mind but what these demands can be met if the necessary financial and material resources are made available to our professional staff members. There are more and better solutions to be found in the specific problem areas relating to our current as well as future needs for physical facilities, personnel, and improved instructional methods. Examples of some of the more promising developments have been presented with the hope that they will be helpful to those who also feel the necessity of doing something about our problems.

Financing Programs of Technical Education

By Joseph T. Nerden

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THERE are about as many different ways of financing technical education in the United States as there are different kinds of programs of technical education. Some operate directly under a public school board, others operate under a special board for higher education, still others are conducted by trustees who in turn report through a board of higher education or a board of regents. These are but a few of the organizational patterns marking programs of a citywide, countywide, or statewide nature being conducted throughout the nation.

Each has its merits when considered from the standpoint of the needs of the area, the community, or the state; each also has its own set of financing problems and peculiarities.

At one time, it was believed that a small state could best operate its program of technical education by adhering to central state control of its schools, and a central state financing of the system of schools. This was the pattern that was developed in Connecticut, and is the one under which that state is still conducting its vocational and technical programs. The merits and limitations of such a system will be discussed subsequently. The size of the state (which was a contributing factor in Connecticut) quite evidently did not apply when North Carolina developed its extensive system of Industrial Education Centers and later converted them to a system of comprehensive community colleges and technical institutes. Other states such as Florida, California, and South Carolina also organized quite extensive statewide programs along similar lines.

It would take much time to discuss the relative merits of each, but suffice it to say that with the needs of the state and of its regions under consideration, the merit of each type of state system may be successfully defended. However, there are characteristics of each which, when singled out, warrant specific mention and attention.

In the case of the statewide operation of technical-education programs in Connecticut, the schools in that state are totally owned, conducted, staffed, maintained, and supplied from a central state treasury. Supervision and administration as well as teacher education are centralized in the State Department of Education Bureau of Vocational Education, which results in many similarities in the operation of the 18 institutions, much flexibility, and to some extent commonality of purpose.

On the other hand, a study of the system of 43 individual units now part of the statewide system of community colleges in North Carolina reveals that nearly every one of the institutions has its own individual board of trustees and is particularly responsive to the needs of the immediate region. While the program lacks some of the flexibility which may be noted in Connecticut, there are certain strong characteristics which deserve commendation. The development of a program in North Carolina requires considerable local participation, local funds, and local initiative. The feeling that the school is part of the region and is the result of regional need and determination to have a program of technical education is a strong argument for local participation in a statewide program.

On the debit side, the lack of flexibility in one program and the extensive use of the flexibility factor in the other are worthy of note. In Connecticut, for example, since the budgeting and financing activity is centrally located within the broad program of vocational education of the State Department of Education, it is possible to transfer funds within the system and make them available on short notice; while in other statewide programs such as those conducted in North Carolina, Florida, California, South Carolina, and other states, funds originally provided for one institution are not as easily transferred out of the budget of one unit for use by another. This would be true also of the transfer of equipment, facilities, staff, and other essentials of the operating program.

The investment of funds in technical education is considerable and often requires that several regions or even counties consider joining forces in the provision of facilities and the maintenance of an institution for the development and training of personnel for technical positions. The state of New York has done much to bring to the attention of the nation the thinking and devices that might be brought to bear on the problem of providing regional educational services for students. New York's Board of Cooperative Educational Services (BOCES) has made it possible for several counties to get together on the financing of a particular service or facility needed by students in any part of the state.

Approximately 15 BOCES areas were established and studies conducted during the last five years, out of which came recommendations for the provision of technical-education facilities to meet the needs of the youth and adults in the regions. These BOCES units require that several counties coordinate their resources and their personnel in order to plan, organize, supply, equip, administer, supervise, and finance programs of technical education. State support is provided and, through the office of the State Director of Vocational Education, some federal funds are also made available for this purpose. This is an especially effective means of providing services in areas where any one region, town, city, or county would find it much too much of a burden, were it to begin operation of a technical facility on its own.

Large regions of other states have given significant thought also to the development of technical facilities on a multi-county basis; as a case in point, consider the four-county project in east-central Illinois, in which the four counties of Champaign, Douglas, Ford, and Piatt joined forces, intelligence, and resources toward the planning and development of a post-secondary technical facility to be located in the Champaign County area. On the eastern shore of Maryland, the same procedure was followed, and four counties (Caroline, Queen Anne's, Talbot, Kent) gave careful consideration to the technical needs of their area. The merging of their county resources and educational leadership has provided the beginnings of Chesapeake College, a two-year institution.

As has been pointed out many times to lawmakers and to citizens where an institution of technical nature is under consideration, the investment of funds for technical education often is double that which would have to be invested for similar facilities, staff, and ongoing expenses for other kinds of institutions. "Investment in the technical future of the nation" is stressed, but individuals often refer to the investment as "expense." It is often advantageous to show graphically the returns both socially and economically to region, state, and nation, when individuals are prepared for careers in the field of technology. The revelation of cost vs. return often provides an excellent basis for making the taxpaying public aware of the advantages of investing in the preparation of highly skilled personnel for technical employment. This point must be effectively communicated to the public, for the investment in technical education is frequently as much as $1,000 per student per year. By contrast, public-school education extended to individuals of the same age but in the liberal elements of education usually costs in the neighborhood of $600 or less per year.

Several other forms of technical education are conducted in the nation, and these are worthy of note and study. Many private facilities, some of which have operated in the field of technical education for many years, were involved in the preparation of technicians prior to the strong development of public technical education. It is not the purpose of this paper to review the relative merits of public vs. private technical-education organizations. Rather it is important to note that with the critical shortage of technically trained personnel, all possible facilities are needed which will contribute to the corps of trained technicians required in this technological era.

Some colleges and universities conduct programs of technical education, but these are generally of the highly technical engineering-oriented category and/or of the agricultural-technical category. At many universities, two-year agricultural-technical programs lead to the associate degree, enabling individuals to move out immediately into occupations requiring a knowledge of both the agricultural and technical aspects of their field, while at the same time providing open-end education, enabling the graduate to enrol in a four-year program of agriculture and receive two years of transfer credit.

The same procedure pertains to the highly technical two-year engineering-oriented curriculums offered by some colleges and universities. However, under the aegis of a university which offers an engineering program and at the same time a two-year technician training program, there is always the possibility that one will be regarded of lesser status than the other. In some cases, individuals who enrol in the four-year engineering college program and who encounter some difficulty are advised to enrol in the technician training program. Psychologically, such an enrollee is at a disadvantage and the results are commensurate with the status and recognition which he feels he has inherited.

Also, in the financing of such a university-based program, problems ensue. With the many schools usually operating within the broad framework of a university, and with each of these schools competing for the rather limited dollar resources available, there is little likelihood that the technical institute so operated will find ready access to the funds needed to conduct the kinds of programs which may be urgently needed and urgently requested by the region being served. While some colleges and universities conduct excellent technician-training programs, it would be unfortunate if the impression were left that location on a college or university campus automatically guarantees status and respectability. Further, problems of financial facilitation may be insurmountable in some cases, and may result in stifling the program of technical education.

Sources of Funds

While educators are usually well schooled in the availability of local tax funds as well as state or county funds for the underwriting of technical education, there seem to be significant gaps in their knowledge of the sources of federal funds which might be pressed into service for this purpose. For example, many do not realize that funds from the Vocational Education Act of 1963 are available not only for reimbursing the salaries of teachers, supervisors, administrators, and others directly connected with the program of technical education, but also for the construction of buildings and/or for the renovation of facilities for inaugurating a program of technical education. Further, careful study of VEA '63 will disclose that the possibilities for staff improvement and growth are reflected in the provisions of the act for ancillary services which enable an institution and its cooperating teacher-education agencies to provide the kind of professional growth programs critically needed by the kinds of administrative, supervisory, and/or teaching personnel who are inducted into technical-education programs.

Other federal acts also provide possibilities. These include the George-Barden Act—and one's interpretation of the titles of this Act may very well determine the extent to which these titles may be brought to bear on the financial support of the program of technical education. Under Title II of George-Barden, in which health and other paramedical areas of health instruction are considered, strong support for the development of technical programs is provided in a wide array of health-oriented occupations.

Title III of George-Barden Act has long been a valuable source of financial support for technical education, and in a sense provided the pattern for further support now reflected in VEA '63. This title, which placed special emphasis on the highly technical occupations in the interest of national defense and which provided extensive funds for equipment as well as reimbursement of salaries of a variety of kinds, did much to expand the field of knowledge with regard to area vocational-education programs and the need for facilities of this type to augment all others in the training of personnel for technological fields of employment.

Many other kinds of federal legislation provide opportunities for the administrator to obtain funds for the further development and improvement of programs of technical education. These acts include the Higher Education Facilities Act, the rapidly expanding Manpower Development and Training Act, the Nurse Training Act of 1964, the Allied Health Professions Personnel Training Act . . . even the kind of precisely targeted legislation typified by the National Sea Grant College Act. This last named legislation provided $10 million in fiscal 1967 for the development of programs designed to provide scientists, engineers, and *technicians* deemed necessary in the wide variety of technical occupations now associated with the sea.

The administrator of a technical program should keep within easy reach copies of each of the important educational acts, whether they be specifically vocational or otherwise. Frequent review of the possibilities contained in these acts, combined with frequent discussions of such possibilities with state education authorities, will reveal many uses for which funds in these acts may be employed.

Factors Affecting Financing and Budgeting

Much can be learned of the intricacies of modern financing from a study of actual budgets undergirding technical-education programs and facilities already operational or under advanced planning. For this reason, attention is herewith directed to an accompanying table which depicts the estimated costs for erecting and equipping a technical institute to provide instruction for 910 full-time day students, as well as approximately 3,000 adults who would be attending evening, adult, and extension programs of a technical nature. Pertaining to an institution which is slated to be in operation by late 1968, the table shows how proper provision has been made for site acquisition and cost of the building in planning a comprehensive financing operation. Each of the items is deserving of extensive discussion, but space does not permit this. References are made to specific items only, in the hope that attention drawn to these items will shed additional light on characteristics of the program of finance which are usually debated widely. The amounts and percentages cited serve only to indicate approximate constants which would apply in a highly industrialized region.

TABLE 1. BUILDING COST ESTIMATE[1]

A. Site	
Approximately 50 acres @ $3,000/acre (including limited site improvement)	$150,000
B. Erection Costs	
Approximately 110,000 sq. ft. @ $20/sq. ft.	$2,200,000
C. Contingency Fund	
Approximately 5% of the cost of erecting the building	$110,000
D. Architectural Fees	
Approximately 6% of the total of items B and C	$138,600
E. Estimated Equipment Costs	
Approximated from similar institute laboratory and classroom facilities	$710,000
F. Cost of Purchasing Equipment	
Office space, clerical and secretarial assistance, office supplies, etc.	$25,000
Approximate Total:	$3,333,600

Curriculums Offered

Engineering-Oriented Technical	6
Industrial Technician	4
Business-Oriented	4

The $20 per square foot indicated as the cost of erecting a technical institute may be used only as an average. As recently as 1965, the U. S. Office of Education (in its *Basic Planning Guide for Vocational and Technical Education Facilities,* OE-80040) used $15 per square foot. Recent buildings constructed in the industrial northeast have cost as much as $27 per square foot, while buildings constructed in the Carolinas have been shown to cost half that amount. Needed in such instances is immediate and careful identification of what is included in the cost per square foot. In one case, all the equipment which would ordinarily be installed by the contractor at the time of the construction might be included, while in another case, no equipment of any kind is ncluded in the building estimate. Close examination f the details often reveals that the range of a flat onstant is not as extensive as might have first seemed o be the case.

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[1] Source: *The Official Technical Institute Plan,* _____ County, State of _____. Aug. 1967. (Further information available on request.)

Worthy of special note in the foregoing table is tem "F"—"Cost of Purchasing Equipment." This is n item which often receives little if any attention n planning and budgeting for a new institution. The ctual cost of purchasing the needed equipment for hops and laboratories for a new building requires personnel, time, and dollars. This activity is represented in the table as a flat $25,000 for a $3.3 million project. It involves not only personnel and time but space and contractual services such as telephone, telegraph and express, heat, light, and in some cases actual travel to locations where equipment and other items may be seen in operation.

In specific cases where a technical institute offers *only* engineering-oriented technical instruction, there exists a rule of thumb which suggests that approximately $5,000 per student is needed to acquire an appropriate site, erect the building, and provide the required equipment. This would mean that a technical institute which would offer engineering-oriented technical programs, designed to accommodate approximately 600 students, would require very nearly $3 million for the erection of the building and for fully equipping it. Actual detailed cost analyses made after such buildings have been constructed and equipped have indicated that the rule of thumb is exceedingly accurate.

In instances where *non*-engineering technologies are the concern of the administrator, other figures must be interpolated in the calculations. For example, where business and secretarial types of technical programs are anticipated, another rule of thumb states that $2,000 per student is adequate. Still further, in the training of industrial technicians of the type who would normally find their way into mechanical drafting, architectural drafting, air-conditioning and refrigeration, industrial electronics, and similar fields, the rule calls for an expenditure of roughly $4,000 per student. Thus, faced with rules of thumb ranging from $2,000 per student to $5,000 per student, the administrator must strike an average based on anticipated enrolments in each of the major categories. Hence, no attempt is made here to indicate how this final constant would ultimately work out. Each situation would require a separate calculation.

In the information supplied in the following tables, the dollar amounts cited again pertain to the institution referred to in Table 1.

TABLE 2. ESTIMATED ANNUAL RECURRING COSTS OF OPERATION AND EXPECTED INCOME[2]

The First Year of Operation	
Operating Income:	
Government Appropriations	
State	
1/3 of the cost for approximately 540 students estimated at very nearly $800 per student per year	$144,000
Local matching contribution	144,000
Student Fees, 540 students @ $267/yr.	144,000
Federal Grants	
These would be made to the state and would be reflected in state reimbursement policies concerning construction costs, equipment, reimbursement of salaries, etc.	
Departmental Sales	None
Other Income	None
Total (Estimated)	$432,000
Operating Expenditures:	
Cost of Instruction	
Approximately 36 teaching staff and department head salaries @ approximate average of $8000	$288,000
Teaching Assistants, 5 @ approximately $6000	30,000
Library	
Cost of acquisitions as recommended by American Library Association	
540 students @ $2.50/student/year	1,350
Periodicals and Technical Journals	500
Student Services	
Guidance and Counseling	10,000
Cost of Recruiting	2,500
Publications, Catalogs, etc.	2,500
General Expense	
Instructional materials, telephone, freight and express, postage, mimeographing, printing, etc.	
540 students @ $20/year (first year)	10,800
Plant Operation	
Heat, light, power, building and grounds, maintenance, water, repairs, etc.	28,350
General Administration	
Salaries of administrative and supervisory staff, 4 @ average of $11,000	44,000

Nonprofessional employes, 6 @ average of $3000	18,000
Building utility staff, 2 @ $3000	6,000
Total (Estimated) . . . first year of operation	$442,000
The Second Year of Operation	
Operating Income:	
Government Appropriations	
State	
1/3 of the cost of 910 students estimated at $800 per student/year	242,000
Local matching contribution	242,000
Student Fees, 910 students @ $267/year approximately	242,970
Total (Estimated)	$726,970
Operating Expenditures:	
Cost of Instruction	
Approximately 60 teaching staff and department head salaries @ approximate average of $8500. This includes an increment for the teaching staff of the previous year	510,000
Teaching Assistants, 7 @ $6000	42,000
Library	
910 @ $2.50/year/student	2,275
Periodicals and Technical Journals	800
Student Services	
Guidance and Counseling	10,500
Cost of Recruiting, Travel, Publications	5,000
General Expense	
Instructional materials, telephone, express, postage, mimeographing, printing, etc. Average: 910 students @ $20/student	18,200
Supplies for laboratories (advanced students)	10,000
Plant Operation	
Heat, light, power, maintenance of building and grounds	38,000
General Administration	
Salaries of administrative and supervisory staff, 4 @ $11,600 average (includes annual increment for staff employed last year)	46,400
Non-professional employes, 8 @ $3200 average	25,600
Building utility staff, 4 @ $3200 average	12,800
Total (Estimated) . . . second year of operation and thereafter	$721,575

The offering and the conducting of such courses and curriculums as may be needed to serve personnel concerned with part-time, evening, and adult instruction is one of the several important objectives of the technical institute. It may well be the intent to make this kind of instruction selfsupporting. Fees per course, appropriate to cover the cost of instruction, materials, and other collateral costs (light, heat, janitor service, etc.), would have to be calculated and published in the catalogs and folders which describe the offerings. In general, however, the cost per course to the student would be a proportionate part of the cost charged per year of day-school instruction.

Attention should be given to the matter of estimated annual recurring costs of operation and expected income as shown in Table 2. In many states, the actual cost of post-secondary technical education is divided three ways: The student pays one-third, the state pays one-third, and the school organization pays the balance. The income derived from the state and the student must be a considered part of the financial pattern.

It should be noted that while the ongoing cost of instruction is indicated at approximately $800 per student per year for an institution of this nature, several states by virtue of careful scheduling, prudent class and laboratory scheduling, and efficient use of facilities are operating programs of technical education below the cost figure of $600 per student per year. Other states, in their beginning phases of technical operation, are operating at a cost as high as $1,100 to $1,200 per student per year. Rutgers University[3] has provided a guide to classroom and laboratory scheduling which cites small classes, high salaries, inefficient faculty assignment and facility utilization, and lack of long-range planning as among the factors contributing to these higher figures.

Each such factor would have to be considered separately to determine steps necessary to reduce the costs of operation.

All technical education is not conducted on the post-high-school level, of course. Connecticut, Massachusetts, New York, and New Jersey are among the many states which have developed highly effective secondary-level technical-education programs. Pro-

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[2] Source: *Ibid.*

[3] *Guide for Planning Community College Facilities,* Rutgers—the State University, New Brunswick, N. J. 1964., 40 pp.

viding an insight into the pattern of expenditures required to create the kind of institution equipped to provide technical education on the secondary level to meet the needs of secondary-school youth who plan to prepare for occupations that are currently available (and presumably will be available to them on graduation from the twelfth grade), is the following table:

TABLE 3. FINANCIAL REQUIREMENTS FOR A PROPOSED NEW REGIONAL VOCATIONAL-TECHNICAL SCHOOL SERVING THE LOWER NAUGATUCK VALLEY, CONNECTICUT

370 Full-time students (Day Program)
800 Adult and part-time students (Evening Program)
8 Full-time curriculums (grades 10, 11, and 12) including:
- Industrial Electronics
- Mechanical Drafting and Design
- Tool and Diemaking and Design

Site Expenditure	
Estimated cost of site (minimum 25 acres)	$100,000
Erection Expenditures	
Estimated cost of school buildings, based on 74,065 sq. ft. of floor area at $20 per sq. ft. including utilities and site development	$1,481,300
Estimated contingency fund based on 15% of the estimated cost of buildings including utilities and site development ($1,481,300)	222,195
Estimated architect's and engineer's fees based on 5.37% of the estimated cost of buildings including utilities, site development, and contingency fund ($1,703,495)	91,477
Estimated Department of Public Works fee based on 2½% of the estimated cost of buildings including utilities, site development, and contingency fund ($1,703,495)	42,587
Total Erection Expenditures	$1,837,559
Equipping Expenditures	
Estimated cost of equipment for vocational shops, laboratories, classrooms, administrative, physical education-assembly, cafeteria, and custodial service areas	587,747
Estimated Department of Public Works fee for the purchasing of equipment based on 2½% of the estimated cost of equipment ($587,747)	14,694
Total Equipment Expenditures	602,441
Estimated Grand Total Cost of School Plan Including Equipment	$2,540,000

The Future in Financing of Technical Education

As the need for technical education continues to manifest itself throughout the nation, it is contingent on each educational agency, at its appropriate and chosen level, to assume the responsibility for providing adequate technical-educational services and facilities for the preparation of youth and adults for the fields materializing from our phenomenal technological growth. The patterns of finance will vary, of course, but there is a discernable trend now toward regionalization of services, and the merging of forces and intelligence to provide the kinds of support and guidance needed for technical education.

Financing of technical education, whether on the secondary, post-secondary, or college level, will reflect a fuller appreciation by the educational community of the importance of extending technical education to individuals at the time when these individuals are ready, willing, and in need.

Democracy in decision making, innovation in program design, and creativeness in structural detail will be accompanied by a new high level of sophistication in educational philosophy and attention to the social and economic implications of technical education for our people and our nation.

(EDITOR'S NOTE: The foregoing article is an abridged version of a special 1967 report prepared by Professor Nerden for the Center for Occupational Research and Leadership Development at Ohio State University.)

Technical Education in the Small Community College

By James E. Seitz

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THE community-college movement is one of the most dynamic developments of the times. Comprehensive junior colleges, which provide both general and occupational education, are being built at the rate of 60 a year. While this represents an all-time record in college building, the rate is likely to climb still higher in the years immediately ahead. Plans now being developed throughout the various states call for nearly 200 additional two-year institutions by the year 1970.

As the movement grows, the problems related to technical education will increase substantially. Many of the new institutions will be dedicated in some measure to easing pronounced demands for technicians. The persistence of this practice, along with the trend toward technical education in the four-year colleges and universities, will contribute increasingly in the future to the difficulties of expanding the offerings in established junior colleges. For the institution of limited size and capability, the problems involved in securing competent faculty, equipping costly laboratories, and maintaining an effective educational setting might become practically insurmountable.

In the next several years, decisions with respect to training technicians in community colleges will have to relate more to feasibility than to desirability. Local interest and the need for industrial and engineering technicians will be easily ascertained in most instances, but the big question will be one of institutional capability for graduating persons with the technical, conceptual, and creative skills required by industry.

Administrators in the small two-year colleges will have reason for utmost concern. While some will be able to procure funds in adequate amounts for new programs, the wisdom of investing in a technical program will remain subject to serious questioning wherever limitations in enrolment and instruction prohibit the achievement of quality.

Some Common Problems

The problems of introducing and maintaining effective technical programs in the small community college are somewhat evident in the characteristics of the institution itself. Besides the widely publicized generalities about all community colleges—that most ascribe to a policy of open admissions, are coeducational, charge a small amount for tuition, and provide both occupational and transfer courses—there are other pertinent generalizations to be considered. Some additional ones (with several relating solely to comprehensive institutions of less than a thousand enrolment) are:

- Small public junior colleges often serve districts that consist of diversified-business, residential, moderately industrial, and rural areas.
- They are relatively new (approximately one-half of the small public institutions having been established in the last six years), and they are often housed initially in temporary facilities.
- By and large about two-thirds of all students in community colleges select a transfer objective, with attrition as high as 40 to 50 percent among the freshmen in all programs.
- Institutions engaged in developing technical curriculums generally record a doubling of enrolment in the courses during the first several years.
- As few as one in every 12 male students chooses the technologies when such courses are first introduced in an institution which for many years has offered only the transfer programs.
- Where other occupational courses are provided, as many as one-fifth to one-fourth of the total student body eventually enrol in the industrial and engineering technologies.
- The students often select a technical program on the basis of interest or peer influence rather than ability, the advice of a counselor, or availability of jobs within the community.
- Many of the institutions offer a variety of technical courses in the evening, with enrolment in such classes about two times that in similar day courses.

There are other features, applicable more or less to individual institutions, which can seriously affect a program of technical education. In general, however, the difficulties stem largely from conditions identifiable in the preceding list.

The location of the institution, the composition of the district, and the general concept of inadequacy that is associated with small junior colleges are among the contributory conditions. These and other interrelated factors give rise to limitations in funding, staffing, and enrolment.

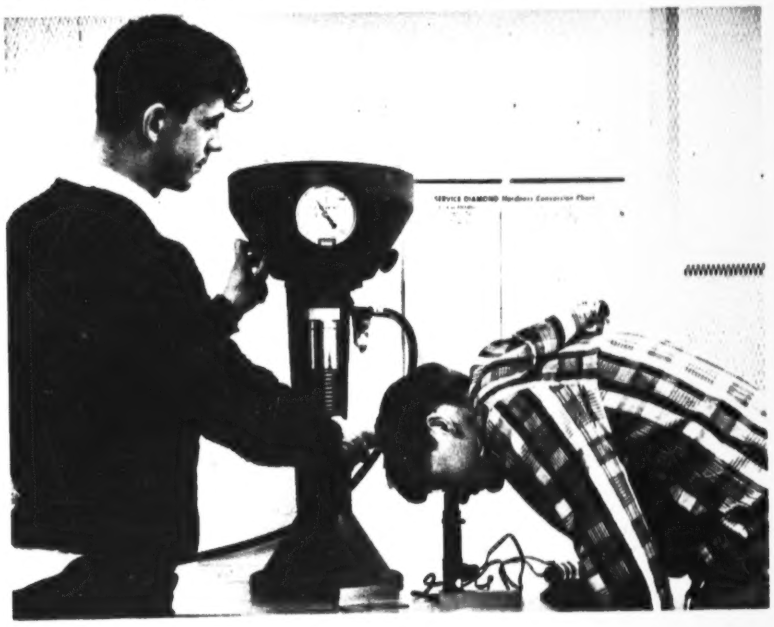
Funding

The financing of technical education in the comprehensive community college is not as difficult as it once was. The provision of federal funds, covering a possible 50 percent of the total cost of instruction, equipment, and facilities, plus state reimbursement at the current level of $200 to $400 per student per semester, is somewhat indicative of this. When these amounts are combined with tuition payments in a public junior college (normally between $100 and $200 per individual per academic year), there remains a comparatively small amount of the total cost to be obtained directly through local taxation.

It is, nevertheless, true that small institutions are not as financially able as the large ones. While the

New community colleges are sometimes housed in renovated facilities. Even in temporary quarters, it is important to provide an environment that contributes effectively to learning.

Tools and equipment of appropriate variety, quantity, capacity, and quality are required to provide the optimum in laboratory experiences for each student in the technician program.



Technical programs in the small community college should be designed to prepare students in broad occupational areas. A course in surveying as part of a civil technology curriculum, therefore, is preferred to a curriculum in surveying.

latter may readily maintain a dozen or more technical programs, those of limited size are sometimes incapable of supporting one or two adequately. The relative valuation of taxable property within the districts is the underlying reason.

In light of the high cost of providing excellent facilities, equipment, supplies, and instruction for the technologies, there is little justification for attempting to offer a wide variety of such curriculums in the small institution in the first place. The added encumbrance to the taxpayer is not the only consideration, however. Local demands for technicians and shortages of qualified faculty or capable students are equally important in the determination of an appropriate limit.

Staffing

The technical administrator who has had experience in institutions of different sizes soon realizes where the major difficulty lies in recruiting qualified faculty. Prospective faculty often apply to large, established institutions without solicitation, while it is sometimes necessary in other situations to invest the equivalent of $1,000 or more in administrative time, secretarial assistance, automotive and air transportation, local and national advertising, and meals and lodging in an attempt to fill a single position. Moreover, a salary range in excess of that provided in nearby, larger institutions is a virtual necessity in order to attract qualified personnel. Small community colleges are seldom as attractive as the others in terms of prestige, fringe benefits, instructional load, opportunities for teaching in the summer, etc.

Location is a major factor, whether the quest be for full-time or part-time faculty. It is difficult to find fully experienced persons in a small community, just as it is difficult to get some persons to move into and remain in the area. Limited possibilities with respect to housing, recreation, consulting work, or graduate study contribute to the problem. A commuting distance of 60 to 80 miles between the campus and the nearest large cities is also a point of considerable importance in some cases.

Despite the many difficulties, the staffing of a technical program in a small community college can be accomplished with remarkable success at times. The question remains, of course, whether or not the small institution will be able to compete with its larger counterpart in the future. With indications that salaries of $1,100 to $1,500 per month will be commonplace in the next several years, there is indeed something for an administrator to think seriously about, especially if he is contemplating new programs for an institution already gripped by growing pains.

Enrolment

Enrolment poses many problems—not the least of which pivots around the ready availability of enrollees for maintaining programs of the level of rigor and quality intended.

The considerations here are many and varied. Some of the ones most applicable in the early stages of the development of a community college are:

- The minimum level of enrolment required to effectively accommodate courses in technical education.
- The requirements for staff, equipment, and facilities as based on an estimate of the numbers of students first entering the program.
- The nature and number of different courses that may be feasibly offered and which the students will elect once such courses are made available.

- The rate of academic attrition in the comprehensive institution.
- The influence of various other factors which may limit enrolment, including transferability, the attitude of counselors, the attitude of the local populace, the past history of the institution, and the amount and effectiveness of supporting publicity.

Due to the variety of local conditions, it is difficult to say just how large a community college should be before introducing technical education. It seems safe to estimate, on the basis of national information, that a total enrolment of about 400 day students (boys and girls) is necessary. An enrolment of twice that number is probably desirable in well established academic institutions. A crucial point in such an estimate, in any case, is the number of sophomores likely to be on hand after the initial year for new programs.

The case here at Mineral Area College is somewhat indicative of the problem for institutions which have existed as transfer institutions for many years. When technical programs were recently introduced to the day schedule, 41 of 511 students chose either of two associate degree objectives rather than a transfer track. Evening enrolment, on the other hand, was 96 in the occupational courses out of a total of 212 students.

The degrees referred to in this situation were available to both boys and girls, one in technology and one in business and office practice. The technical degree was made available in the civil and the design-and-drafting technologies. The enrolment indicated in each instance was divided about evenly between the several programs. A 60-percent drop in enrolment among freshmen in the day programs left an inadequate number to justify certain sophomore classes (especially in civil technology). During the second year for the programs, the number of freshman applicants doubled, and the limited number of sophomores in some cases were grouped with academic students for their general education and technically related courses. There were obvious difficulties in carrying out an effective program for the proportionately large group of students with limited abilities. This problem has subsequently been eased by the addition of more instructors and by guiding some freshmen into less rigorous one-year certificate programs in technology.

Besides the various suggestions advanced previously, the technical administrator in the small institution should consider several additional points: (1) While there is merit in developing curriculums that have some relation to community needs, it is essential to offer, initially at least, one curriculum that has appeal to the high-school graduate. Electronics and drafting are two that have wide appeal. (2) Some thought should also be given to the transfer function, for two reasons. First, there is considerable evidence that some students avoid a program because it is not designed to transfer; and, second, the growing importance of the four-year technical programs can no longer be ignored.

Enrolment data for 1966, as published by the American Association of Junior Colleges in the *1967 Junior College Directory,* indicates that of 837 public and private junior colleges, 491 enrolled less than 1,000 students. The remaining number of institutions, or 346, enrolled 1,000 to 10,000 or more students. Difficulties discussed previously for institutions of limited size would, therefore, seem to be applicable to a majority of junior colleges.

Curricular Innovation

Small community colleges are becoming very much innovative. This is a natural development in view of

The didactic should not overshadow the investigative in the technician's laboratory work. More and more, industry needs technicians who have developed a feeling for experimentation, problem-solving, and invention.

the convenience of incorporating new and sophisticated hardware in the plans for building expansion. Innovation in the instructional program is occurring to an extent, also, and it is through this latter development that the greatest gains are likely to be realized.

Our changing technology requires that technicians be graduated who will accept change and naturally seek better ways of doing things. What is needed, therefore, is increased emphasis on developing habits of inquiry, problem-solving, critical thinking, and inventiveness within the limits of each student's capabilities. At the same time, a corresponding de-emphasis is needed with respect to terminology, classification, and memorization. In short, more consideration must be given the *process* goals as opposed to the traditional *content* goals.

The technical laboratories are especially adaptable to a creative problem-solving approach. This is particularly true where laboratory experiences are scheduled in all four terms of the curriculum. Such is the case at Mineral Area College where the work is staged at three levels—the *instructive*, the *investigative,* and the *inventive.*

Initially, in the instructive phase, the approach is very much didactic. The students are taught to follow a step-by-step, scientific procedure in performing experiments. The instructor works closely with the students, and they are expected to follow his directions carefully.

The investigative—or problem-solving—level is reached during the second and third terms. The students are given a variety of experiments to complete at that point. They are expected to establish parameters, do the necessary research, conduct the experiments as they see fit, analyze the data, and draw conclusions much on their own. As the problems posed are of a sort ordinarily encountered in the routine of a practicing technician, the instructor can make a comparison between known results and those obtained by the students. Perhaps obvious is the need to assign problems of various degrees of complexity.

An inventive approach is applied in the final term of the program. By that time, the student is expected to have acquired basic skill and some knowledge of accepted procedures, as well as an appreciation for independent, orderly problem-solving. He is then encouraged to develop an enthusiasm for delving into the new and untried.

The work at this level involves seeking solutions to problems for which there are no known or complete answers. The instructor simply poses a problem, and the students, independently or as a group, attempt to develop workable solutions. The possibilities are virtually unlimited. One such problem for civil technology students might be to develop a superior but economical sub-grade material for the highways of a particular area. Another might be to find a use for large quantities of waste from nearby mines. Perhaps none of them will develop a single, improved, practical idea or product; but their involvement in the process—thinking, brainstorming, and experimenting—is the point of primary importance.

In the final analysis, the effectiveness of any approach to technical education is to be evaluated on the basis of the relative success of the graduates in appropriate positions of employment. There is good reason to re-evaluate the program if 80 percent or more do not find employment in the area for which they are trained and if they fail to advance at a rate commensurate with their individual abilities.

ngineering Related Technologies

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EDUCATION programs for the preparation of technicians now include physical science and related engineering technologies, biological science technologies, or combined physical and biological science technologies.

This discussion of the engineering related technologies will not be an analysis in depth of any one or even a cluster of technologies but rather a brief look at current and developing needs for programs and personnel as identified by national agencies, and some of the professional associations and educational agencies which are providing guidelines for program level and content. The references cited apply primarily to post-high-school educational institutions, such as technical institutes and junior colleges which have two-year curriculums leading to an associate or similar degree, or to area technical-vocational centers. These particular institutions provide over 50 percent of the programs and enrolments.

Lynn Emerson in his graphic presentation of the required manipulative and technical skills for industrial workers from the semi-skilled to the engineer[1] shows that the technician and engineer require a major amount of technical skill instead of manipulative skill. Technical skill or abilities have been defined as the following[2]:

1. Facility with mathematics; ability to use algebra and trigonometry as tools in the development of ideas that make use of scientific and engineering principles; an understanding of, though not necessarily facility with, higher mathematics through analytical geometry, calculus, and differential equations, according to the requirements of the technology.
2. Proficiency in the application of physical science principles, including the basic concepts and laws of physics and chemistry that are pertinent to the individual's field of technology.
3. An understanding of the materials and processes commonly used in the technology.
4. An extensive knowledge of a field of specialization with an understanding of the engineering and scientific activities that distinguish the technology of the field. The degree of competency and the depth of understanding should be sufficient to enable the individual to do such work as detail design using established design procedures.
5. Communication skills that include the ability to interpret, analyze, and transmit facts and ideas graphically, orally, and in writing.

An adaptation of Emerson's concepts to a broader field of occupational education is shown in Fig. 1. The information on this chart shows how, and what, educational content stands between individuals and their life work. In reality there are no straight or solid lines between these categories as changing requirements in technology often result in horizontal shifts and much overlapping between the various occupational categories.

Definitions

What are engineering related technologies? Engineering, according to the Engineers' Council for Professional Development[3] is "the profession in which a knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize economically the materials and forces of nature for the benefit of mankind." And I would define technologies as a classification of occupations which often draw their content from a branch of engineering or a semiprofessional field and which concern the mechanization of industrial processes and methods requiring knowledge and skill in the use and application of engineering and scientific principles and new or different utilization of human and material resources.

In January 1966, the Board of Directors of the National Society of Professional Engineers (NSPE) approved the new definition of engineering technicians which has been adopted by the Board of the Institute for The Certification of Engineering Technicians[4]:

"An engineering technician is one who, in support of and under the direction of professional engineers or scientists, can carry out in a responsible manner either proven techniques, which are common knowledge among those who are technically expert in a particular technology, or those techniques especially prescribed by professional engineers.

"Performance as an engineering technician requires the application of principles, methods, and techniques appropriate to a field of technology, combined with practical knowledge of the construction, application, properties, operation, and limitations of engineering systems, processes, structure, machinery, devices, or materials, and, as required, related manual crafts, instrumental, mathematical, or graphic skills.

"Under professional direction an engineering technician analyzes and solves technological problems, prepares formal reports on experiments, tests, and other similar projects or carries out functions such as drafting, surveying, technical sales, advising consumers, technical writing, teaching, or training. An engineering technician need not have an education equivalent in type, scope, and rigor to that required of an engineer; however, he must have a more theoretical education with greater mathematical depth and experience over a broader field than is required of skilled craftsmen who often work under his supervision."

Need for Technicians

But an engineering technology needs more than a definition if it is to serve a useful purpose in the labor market for industry. Technicians are needed with the specialized knowledge and skills to support the professional engineer or scientist as a part of a three- or four-man team composed of either or both the scientist and engineer and the technician and skilled craftsman. Technicians must also have, or acquire, the ability to communicate with members of the team in order to do the research, development, production, or scientific or medical service work in which he has employment.

The Wickenden and Spahr report[5] was one of the first to identify the need for post-secondary education which supplemented but was different from engineering education. The opening statement in this 1931 report was: "A need exists in our post-secondary scheme of education for a large number of technical schools, giving a more intensive and practical training than that now provided by engineering colleges."

The need still exists for both a post-secondary scheme of education and for the technically trained manpower prepared in such institutions. The National Science Foundation in 1961 estimated a need for at least 70,000 new technicians each year until 1970 for a total of one and a fourth million. The U.S. Bureau of Labor in a December 1, 1966, newspaper release estimated that the present 845,000 jobs for draftsmen, engineering and physical science technicians, life science aides, industrial designers, computer programmers, and surveyors will grow to 1.5 million positions in 1975. Nearly 86,000 technicians must be trained every year to meet the economy's needs. These are for new jobs. To take care

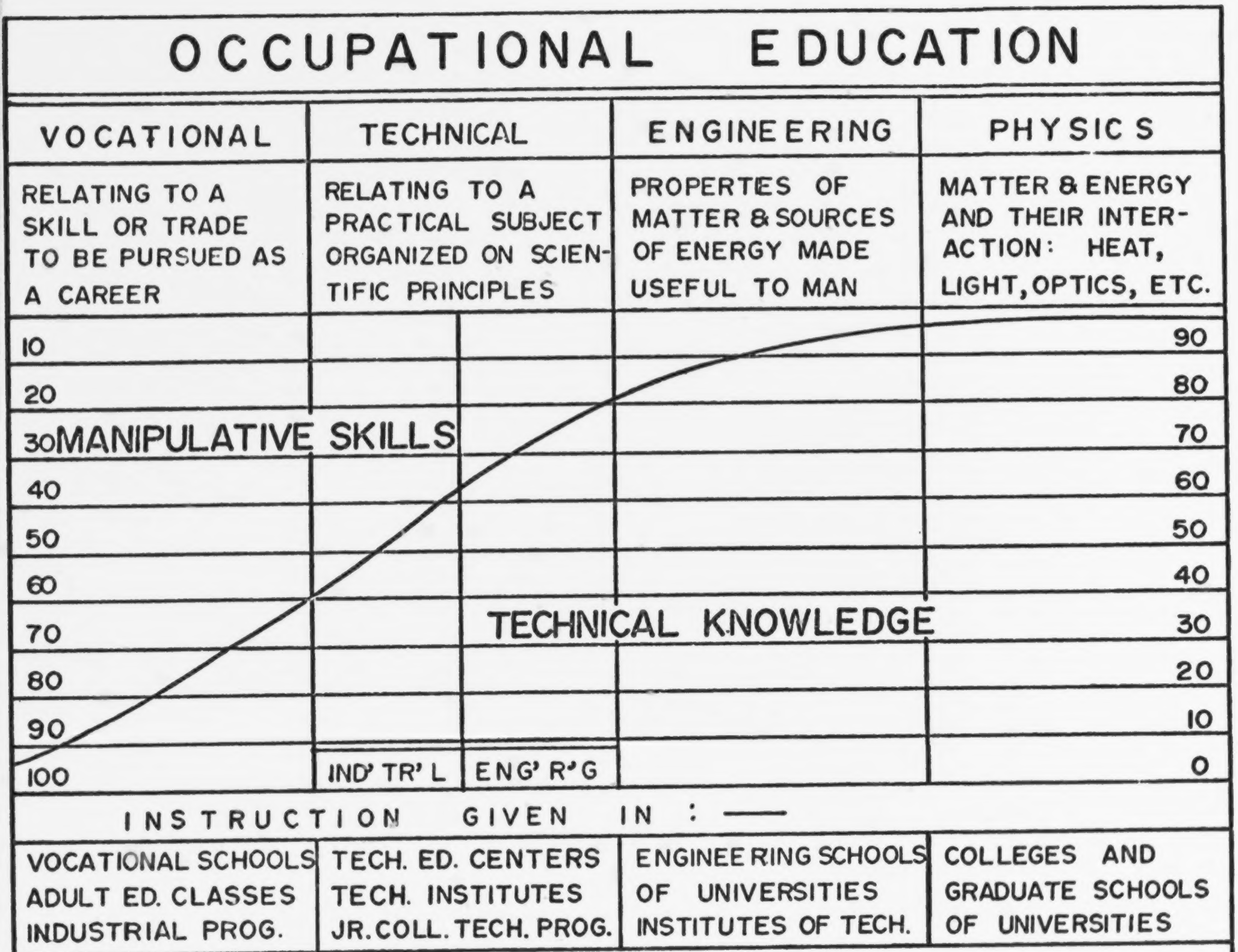

CHART SHOWING RELATIONSHIP OF INSTRUCTIONAL AREAS IN OCCUPATIONAL EDUCATION

of replacements, promotions, and other changes nearly an additional 45,000 will be needed. Less than half this total number are now enrolled.

Most projections for manpower needs in the technologies are based on an approximate ratio of one to one for technicians and engineers. If such projections were based on a desirable two to one ratio or a more ideal ratio of three to one, the shortages would be much more acute.

The public is slowly recognizing the fact that much of the work traditionally regarded as requiring a four-year engineering graduate is now being accomplished competently by qualified engineering technicians. A significant economic fact is also becoming recognized. This fact, as G. Ross Henninger[6] points out, is that "the employment market for competent engineering technician graduates of recognized two-year curriculums is good enough so that it may take the average engineering graduate from a traditional four-year curriculum 15 years or more to catch up on the basis of accumulated net worth in dollars and cents including the higher cost of the education involved."

This economic factor is substantiated by the Engineering Manpower Commission in its 1966 report[7] which concluded that experienced graduate technicians are able, in large numbers, to achieve salaries in industry equivalent to those of many graduate engineers. This transition seems to occur after 12 to 14 years of experience. The average graduate technician after these years of service enjoys a salary structure quite close to the lower half of all engineers.

Engineering Branches

So there is a need for engineering related technicians. And the economic results are good. What are the fields open to interested youth in this area? The following table of 105 primary branches of engineering, as listed by E. W. Jacunski,[8] can be used to project the broadening role and scope of engineering technologies:

Aeronautical Engineering

Aerodynamics
Aerophysics
Aerospace
Airlines
Celestial Mechanics
Control Systems
Environment
Guidance
Instrumentation
Propulsion
Power Plants
Stability and Control

Agricultural Engineering

Crop Processing
Farm Structures
Power and Machinery
Water Management

Chemical Engineering

Electrochemical
Explosives
Food Processing
Heavy Chemicals
Paper and Pulp
Paints
Petroleum
Pharmaceuticals
Plastics
Rubber
Soaps and Fats
Synthetic Fibers

Civil Engineering

Airport
Bridge
City Planning
Coastal
Construction
Engineering Mechanics
Highway
Hydraulics
Irrigation and Drainage
Materials
Pipeline
Power
Sanitary
Soil Mechanics and Foundations
Structural
Surveying and Mapping
Waterways and Harbors

Electrical Engineering

Communication
Computers
Control Systems
Electron Ballistics
Electronics
Energy Conversion
Illumination
Information Theory
Instrumentation
Machinery
Molectronics
Navigation Aids
Power Distribution
Propogation
Radio Astronomy
Telemetering

Industrial Engineering

Cost Control
Data Processing
Economy
Job Evaluation
Manpower Management
Motion and Time Study
Operation Research
Production
Quality Control
Safety
Statistics
Systems and Procedures

Mechanical Engineering

Air Conditioning
Automotive
Combustion
Diesel Power
Fluid Mechanics
Gas Turbines
Heating and Ventilating
Heat Transfer
Industrial Machinery
Instrumentation and Control
Lubrication
Machine Design
Materials Handling
Power Plant
Refrigeration
Steam Turbine

Mineral Engineering

Ceramics
  Abrasives
  Cements
  Glass
  Whiteware

Mining
  Coal
  Gold, Silver, etc.
  Iron
  Other nonmetals

Metallurgy
  Beneficiation
  Casting and Welding
  Extraction
  Heat Treatment

Petroleum
  Development
  Exploration
  Production
  Transportation

This table does not include such engineering branches as acoustical, architectural, geological, marine, military, nuclear, and ordnance. Russell Henke further identifies such additional developing areas of engineering branches as process control, fluid control, and physical systems. He also lists municipal works engineering, water engineering, and conservation engineering.[9]

Each of these branches represents many functions which are performed by either engineers or technicians. These can be research, development, design, production, testing, planning, sales, service, construction, operation, teaching, consulting, and manage-ent. Both the National Society of Professional En- ineers and the American Society for Engineering ducation are encouraging strong technician-training ograms so that professional engineers can be re- ased for the more creative functions of engineering.

ype of Education Needed

The type of education needed by these technicians different from those enrolled in the engineering urriculum and the vocational curriculum. G. Ross enninger points up the difference in emphasis:

> The engineering technician is best served by an educa- onal program which is intimately related to, but which iffers significantly from, the program most effective for e engineer, and which likewise differs significantly from e educational program most effective in developing or nhancing the skills and "know-how" of the craftsman. The ngineering technician does *not* need either the depth or xtent of mathematical or scientific understanding required y the engineer. However, the engineering technician *does* eed to have a practical working understanding of essen- ially the same subject matter, together with appropriate ommunication skills and mathematical competence. To chieve the necessary results, an educational approach is re- uired that is comparable in quality and general level to the niversity-collegiate engineering program but that differs sig- ificantly in emphasis, which is that of practical applica- ion of scientific principles rather than the development of ew design concepts or the extension of existing knowl- dge.[6]

The Engineers' Council for Professional Development (ECPD) suggests that the content for the two-year engineering technology curriculums of 72 semes- er hour credits be approximately 15 percent in basic cience courses, 10 percent in mathematics, 25 per- ent in general education, and 50 percent in tech- ical courses. Norman C. Harris, in his suggestions for a curriculum for engineering technicians,[10] has imilar percentages but with some slight variations in he general education, mathematics, and science areas.

The development of a technical program in any institution must take into consideration the number f students and the number of offerings. Norman Harris suggests a core of courses common to several echnologies as a necessity for smaller institutions. William J. Schill and J. P. Arnold in a study of six echnologies[11] found the common core of knowledge elated to all the six technologies included technical writing, engineering graphics, mathematics through rigonometry, and the use of test equipment.

The Division of Vocational and Technical Education of the U.S. Office of Education has prepared guides for seven two-year post-high-school curriculums in its Technical Education Program series. These guides are on electrical technology, electronic technology, mechanical technology: design and production, electronic data processing, chemical technology, instrumentation technology, and civil technology: highway and structural options. Additional materials are in the process of preparation.

Several educational developments, which have significantly affected engineering technologies and technical education, are worthy of mention.

For instance, the Technical Institute Division of the American Society for Engineering Education was established in 1941. And in 1944 the Engineers' Council for Professional Development accepted the responsibility for inspecting and evaluating technical institute curriculums. It has functioned continuously since that time, paralleling its previously established activity through its Engineering Education and Accreditation Committee for the evaluation and accreditation of engineering curriculums. The Engineering Technology Committee of the ECPD is the agency which accredits the engineering technology curriculums. Such accreditation procedures can only be initiated after the institution is accredited by its regional accrediting agency, unless the institution is not eligible for regional accreditation. The committee does not accredit an entire school or college or institution; it accredits curriculums only. Forty-eight schools in 18 states had 158 engineering technology curriculums accredited in 1965.

In 1962 the Technical Institute Evaluation Working Committee of the American Society for Engineering Education proposed quality standards as guidelines for constructing, improving, and evaluating engineering technology curriculums. They have been widely used by two-year post-high-school institutions, including junior colleges, as rigid standards or requirements for establishing programs, despite the fact that the standards are suggested as guidelines.

Another recent educational development which has helped the recognition and status for technicians has been the organization of the Institute for the Certification of Engineering Technicians. This Institute, which has been in existence only a few years, is an examining body only. Although established by the

National Society of Professional Engineers, it is not a society and does not confer any membership or any privileges in NSPE. It recognizes by certification three classes of engineering technicians: the Junior Engineering Technician, the Engineering Technician, and the Senior Engineering Technician. The purpose of such recognition is to provide incentives for self-improvement through established standards of competency which will be recognized by professional engineers and industries who employ technicians. The result should be increased recognition of the role and function of the technician, and increased effectiveness of the scientist-engineer-technician team.

Much progress has been made in recent years in the engineering related technology program. But more institutions, more programs, and more students—as well as more effort on the part of education, engineering organizations, and industry—will be needed to fill the demand created by presently identified technologies and the new ones aborning.

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Recruiting Students for Technician Programs

By Angelo C. Gillie

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THE discrepancy between the number of technology-program graduates and the number of technicians needed by American industry causes us to pose the following question: What can be done to enable the community colleges to produce technicians in the numbers required by modern day technology?

This discussion takes the position that we can determine the answer to this vital question by taking the following steps:

1. Conduct a complete examination of the curriculum *output* requirements.
2. Determine the realistic *input* requirements that are consonant with the output requirements.
3. Carefully look at the total curriculum, with an eye toward *matching* the input with the output.

Output Requirements

There has been some difficulty in attempting to determine some of the output requirements of associate-degree technology programs. Many technical institutes and community colleges are very concerned with the *academic level* of their technology programs. It almost seems that some of these institutions have established unrealistically high academic-level curriculums in an attempt to convince the academic world that technical education is respectable. Many of these institutions have confused *level* with quality. In many of these instances, the institutions are offering programs whose rigor differs little from the traditional engineering curriculum. Such programs, in the opinion of this writer, are not consistent with the realities of the situation. If the job of the technician is different from the job of the engineer (and the contention here is that they are different), then it is logical to assume that the technology and engineering programs should be different. Fields[1] and Harris[2] are among those who subscribe to this position.

A number of studies have been conducted in the past several years that have helped to point out what industry feels is the required academic level of its technicians. These studies include the Michigan study,[3] the New York study,[4] the Bent study,[5] the California State College at Long Beach study,[6] and a study conducted by this writer.[7] The Michigan and New York studies were concerned with all kinds of technicians while the other three focused on electronic technicians. In all these studies, however, one of the conclusions was that the great majority of the technicians need knowledge of mathematics only up to and including applied trigonometry. Since all technologies utilize mathematics as a major support subject, to know the level of mathematics required of most technicians is a major step in developing realistic technology programs. The next step is to relate the level of the required mathematics to the science and technology portions of the curriculums, a task for the specialists within the technologies.

The general-education output requirements of technology programs have been a thorny issue for many years. Traditionally, technical educators have fought against the "invasion" of general education into the technology curriculums. Much of this negative reaction might have been stimulated by the colossal blundering of general educators who attempted to administer both technical programs and liberal-arts programs in exactly the same manner. Furthermore, the disenchanted role that general education plays in many technology programs is at least partly due to the refusal of general educators to become truly involved with technical education. In many cases they have simply tried to foist their preconceived values onto technical educators. Evidence of this fact is that many general educators still feel that there should be no difference between the conventional liberal arts and the general-education portion of technology programs.

In order to provide some hope in resolving the running battle between general educators and technical educators, this writer feels that two issues must be settled now. First, let us declare an end to the controversy over separatism. We should accept as a basic belief that comprehensive technology programs are required for the preparation of modern day technicians. Secondly, let it also be assumed that *education for change* is to be the core of all technology curriculums. When these two positions are truly accepted, then technical education will be ready to mature into the rich comprehensive programs that will prepare students for all aspects of modern day living.

The acceptance of these two positions will demand a change in the point of view of *both* technical educators and general educators. It does no good to point a finger at both camps and emphasize their shortcomings. The crux of the matter is: If technical education is to become innovative enough to meet the output requirements needed for twentieth century living, it must elicit a total commitment from our best technical and general educators. The present apartness of general and technical educators may be one of the chief reasons that technical education is still considered as some kind of second-class education by many students.[8] The resolution of this long-standing conflict is long overdue.

The balance to be achieved between general-education courses and technology courses in technical curriculums should be the result of a realistic appraisal of our society as a whole. What does this mean? I think it means that these students must be prepared for:

1. Living in a society where there is general abundance of leisure.
2. Living in a society where the chief requirement in the world of work is *flexibility*.

John Dewey in *Democracy and Education* was talking about the same thing, and this was back in 1916! He said:

> . . . an education which acknowledges the full intellectual and social meaning of a vocation would include instruction in the historic background of present conditions; training in science to give intelligence and initiative in dealing with material and agencies of production; and study of economics, civics, politics, to bring the future worker into touch with the problems of the day and various methods proposed for its improvement. Above all, it would train power of readaptation to changing conditions so that future workers would not become blindly subject to a fate imposed on them.

These goals move into the realm of the possible only when our best general educators and technical educators can find a true meeting of the minds as to the desirability of these outcomes. I don't think the possibility of this happening on a national scale is too good at the moment, but to identify the ideal goal may serve as basis for more innovative thinking in this direction.

Establishing Proper Input Requirements

Once the technical output of a technology program has been clearly identified in terms of academic level, it is a relatively simple matter to establish the prerequisites for student entry into the program. The fact that the great bulk of technology programs need not go beyond applied trigonometry in the treatment of mathematics indicates that the prerequisites in mathematics are lower than previously assumed by many technical educators. This writer believes that an incoming student with the equivalent of one year of algebra and an interest in that area of technology should stand a good chance of graduating from the program and becoming a productive technician if he is exposed to a sound curriculum with good teaching.

It should be recognized that technician occupations are middle-level jobs. Therefore, it is reasonable to assume that middle-level youth should find it possible to enter into associate-degree level technology curriculums and successfully complete these programs. The term "middle level" is here meant to include those youngsters who are in the 25th to 75th percentiles of their secondary-school class. It is the opinion of this writer, however, that high-school graduates even at the 70th percentile (along with all ranked higher) should be counseled *away from* two-year technology programs. Such students should be urged into four-year (baccalaureate) technology programs or into other four-year curriculums.

Some of the existing two-year technology programs are encountering extreme difficulty in attracting students because of their unrealistic requirements. They are, in many cases, demanding a student of academic level who rightfully belongs in a baccalaureate program. Fortunately for that student, the great expansion of higher education in recent years has made it more likely that he will find a four-year program in which he will be accepted. I doubt if there is any two-year technology program that can be devised that will successfully compete for the youngster of high academic ability. Furthermore, as indicated earlier in this paper, technicians of such high levels are not demanded in large numbers by industry.*

Therefore, it is suggested that the input requirement which would be consonant with the desired output should be: (*a*) the equivalent of one year of algebra; (*b*) a sincere interest in that technology area. It is safe to assume that there is a sufficient number of students who meet this input requirement. In this way we would be well on the way to solving the enrolment problem.

Matching Input to Output

Intelligent program and curriculum construction begins with knowledge of data from the various agencies relating to future trends in occupational change, economic growth, manpower needs, population shifts, and social patterns. From this wealth of data would be obtained insight into program and curriculum outputs, required inputs, and the curriculum content that would be needed to match the input to the output.

Research and planning bodies, perhaps under the auspices of certain outstanding universities, should be established on a permanent basis to translate available data into identification of national, regional, and state needs. Grant Venn proposed such a body on a federal level.[8]

The function of such bodies would be to recommend, not to dictate. These recommendations would serve as the springboard for actual curriculum construction. Converting the recommendations into a viable program would most logically fall within the realm of competent specialists in technology and general education. Although certain broad aspects of curriculum construction might be done at the state level, it is the opinion of this writer that the specifics of the program should evolve out of faculty-controlled curriculum committees within the community colleges that will conduct programs.

Furnishing the community-college technology faculties with the most recent data by a research and planning body, coupled with some broad guidelines from the state level and a guarantee of college autonomy, could very well constitute the ideal setting for the establishment of realistic technology programs. It seems to this writer that real innovation and experimentation will take place in technical education only in such an atmosphere. Furthermore, the resolution of the long conflict between general education and technical education could really begin when such an atmosphere prevails within the community college.

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*A limited number of high-level technicians, whose backgrounds in mathematics encompass calculus, are needed. It is recommended that four-year baccalaureate programs be established for the upper-level technician. The New York study disclosed a pattern in which about 13 percent of technical-occupations employes were four-year college graduates. Such programs would probably attract a sufficient number of high academic-level youth.

Then it might be possible to develop technology programs that will prepare the student for flexibility in the world of work and also for living in a society where there is a general abundance of leisure.

As such programs begin to emerge, students will be drawn to them in increasing numbers and the student shortage in technology programs will become a problem of the past. Can we rise to the occasion?

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Characteristics of the Technical-Education Student

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IN discussing most any facet of technical education there seems to be one abiding problem. That problem is trying to specifically define technical education. I certainly don't intend to fall into that pit or to open any old wounds by rigidly classifying technician types of jobs. However, before we can identify certain general characteristics of the technical-education student, we must set certain boundary conditions by delineating our frame of reference. In other words, we need to identify the breed before we can discuss the animal.

Probably one of the best definitions of technical education is taken from a draft of the U. S. Office of Education's Cooperative Project for Standardization of Terminology. Paraphrased, that definition states: Technical education is concerned with a planned and integrated sequence of classroom and laboratory experiences that prepare a student for a cluster of jobs in some field of technology. This program is generally of post-high-school level and its curriculum is based on the knowledge of mathematics and science associated with that field of technology. The program prepares the technician who works between the professional employe and the skilled employe. Having structured our frame of reference (or identified the breed), let's examine some of the characteristics of typically successful technical students.

Technician-training programs are found at both the high-school and post-high-school levels. Both levels of training are important parts of the total effort. However, because the majority of technician-training programs in existence today are at the post-high-school level, and because the demands of the curriculum are at the college level, this discussion of the technical-education student will be restricted to the post-high-school trainee.

As the kind of program we're talking about is college level, the technical student should be a high-school graduate or equivalent. Equivalency, of course, varies with institutions, and is generally established by passing some type of high-school equivalency examination.

Math and Science Proficiency

Numerous studies, both formal and informal, have indicated the entering technical institute students' need for a fair degree of proficiency in mathematics and science. This is typically demonstrated by the significant relationship between success in a technical institute program and mathematics aptitude as was found to exist by Righthand[1] in his study of technical-institute students in Connecticut. This clearly established need for a minimum math-science competency level in entering technical-institute students was earlier documented in such studies as the criterions document of the American Society for Engineering Education which was entitled *Characteristics of Excellence in Engineering Technology Education.*[2] It therefore seems only reasonable that the entering technical student should have completed a minimum of two years (standard secondary units) of high-school mathematics, preferably one year of algebra and one year of plane geometry. In addition, he should have completed one year of a laboratory science, preferably chemistry or physics. However, one unit of high-school biology may be most helpful as a prerequisite for a biological science-oriented technology. Successful completion of additional courses in mathematics and science in high school seems to greatly enhance the student's chance of success in most post-high-school technical curriculums. Some background in basic drafting and shop skills is highly desirable. These skills are frequently gained through industrial-arts courses.

Not Only Academically Talented

So far, the description of this technical student might be interpreted to include only the academically talented—the superior student. This, of course, is not the case. All of us would certainly prefer to have nothing but "students" (in the academic sense) in our classes, but every facet of education seeks these people. However, the technical-education student must be a reasonably capable youngster who is average or above average in intelligence. To enrol students who are either ill prepared for or do not have the basic cognitive skills for a technical-level program will generally result in one of two outcomes: Either the students will fail or the minimum standards of the instructional program will be lowered to accommodate the students. Neither of these alternatives should be acceptable.

It should be recognized, at this point, that because of improper motivation in high school a person's high-school transcript does not always reflect his true potential as a technician. This person may even profess a disinterest in mathematics and science—at least the kind to which he may have been exposed in high school. However, one characteristic must be present in the student. He must have an intense interest in the specialized field of technology he wishes to pursue.

The reason for the absolute necessity of the technical student's interest in a specialized field of technology lies in the structure of the technical-education program itself. For example, in most college-level programs, it is not necessary for the student to declare a "major" until after the first year or sometimes the second year of study. In a professional engineering program, it is many times possible for a person to complete his first two years of pre-engineering without making a final decision with regard to the specific field of engineering that he wishes to pursue. However, because of the highly specialized and accelerated nature of the two-year technology program, a technical student must decide at the beginning of the program the kind of technology in which he wishes to specialize. He can't afford the luxury of delaying his decision for several years.

The successful technical student may be a transfer from some other college program or perhaps an engineering college dropout. Many of these kinds of students have had false starts because of improper counseling, lack of motivation, lack of maturity, or any number of reasons. In many cases, the student who has not succeeded in a professional engineering program may do quite well in a technical-education program. However, his reasons for transferring into a technical program should be positive reasons and not negative reasons. It may be that the student now realizes his limitations in the area of higher mathematics and the abstract cognitive skills necessary in a professional engineering or science program. It may be that he finds his interest is in the area of equipment fabrication and the manipulation of laboratory instruments. That is, he wants a more practical program which involves practical laboratory applications of theory as is found in a technician training program.

There are certain intellective factors which must be present in the technical-institute student for him to reasonably expect successful completion of a program. These factors, however, are not necessarily unique in technical-institute students. The first important factor is a certain interest and ability in the application of both mathematics and science to the field of technology in which he finds his interest. After all, this is the foundation of a technical-education program. Without this basic interest, this student should be counseled into a different type of academic pursuit.

Stress on Reading Ability

Another essential ingredient is a basic minimal reading ability. The importance of reading ability has been verified in a number of studies which relate academic achievement at the post-high-school level to reading ability. In one typical study by Brown,[3] certain selected intellective factors such as abilities in mathematics, science, and reading were related to success in a post-high-school technical-institute program. In this study, reading ability was found to be a far more significant predictor of success than any other single academic factor.

Let us now examine some of the personal characteristics that typify the successful technical-institute student. A recent study of technical-institute students and professional engineering students relative to social class background was conducted at Oklahoma State University by Miller.[4] In this study, social class background was based on father's education, father's occupation, and family income. This investigation revealed that the technical-institute students came from significantly lower socioeconomic backgrounds than the engineering students. However, on following the progress of these students in their respective programs, it was interesting to note that the factor of social class background became insignificant when related to successful completion of either a technical-institute or engineering program. The difference in socioeconomic backgrounds of the two groups could indicate that the choice of a four-year engineering program rather than a two-year technical-institute program was influenced by the income of the parents, or more directly, the parents' ability to pay for two additional years of college.

Further study of these groups relative to psychological needs revealed a significantly greater expressed need for achievement in the engineering students. This, however, is not surprising as it reinforces the earlier research findings of Hyman[5] who showed that parents from higher socioeconomic groups emphasize college training to their children to a much greater degree than parents from lower socioeconomic groups; thus, it again appears that parents who are able to afford the expense of a college program of greater duration emphasize the importance of college training, and endeavor to motivate their children toward a baccalaureate degree program.

In this same investigation, the technical-institute students were studied in terms of their personal values and nonintellective psychological factors to identify any significant differences in these personality variables among technical-institute students who successfully completed their two-year program and those technical-institute students who dropped out of the program. In this study, the student who persisted in his program displayed nurturance type needs to a much lower degree than those technical-institute students who dropped out. That is, the successful student was one who was detached from an excessive need for others. He relied primarily on his own interpretations of situations and not on the interpretations of others. He required a certain amount of privacy from others and was, to a large degree, independent of the feelings of others. This successful student might be described as "things" oriented rather than "people" oriented.

On the other hand, the technical-institute dropout was one with an excess of nurturance type needs. That is, he tended to be an excessiye conformist who had great difficulty in disagreeing with others. He tended to be dependent on the help of others far in excess of necessity. This technical-institute dropout might be described as "people" oriented rather than "things" oriented.

Essential Factors

Technician-training institutions vary with regard to stated philosophy, objectives, admission procedures; the technical students within institutions also vary. However, in trying to summarize some characteristics which generally typify successful technical-institute students, I think we might all agree on these essential factors:

- The technical student must be at least average in terms of academic ability.
- The technical student must have at least an average ability in mathematics and science with a genuine interest in the practical application of these skills to some specific field of technology.
- The technical student should have the maturity

and personal characteristics which enable him to work for and with others.

- The technical student must be a person who can form judgments and function effectively without excessive reliance on others.

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[1] H. Righthand, "Identifying Technical Institute Dropouts." *Personnel and Guidance Journal* (September 1965), 68-72.

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[3] D. W. Brown, "The Relationship of Academic Success of Students Enrolled in the Oklahoma State University Technical Institute to Reading Ability and Mechanical Ability." (Unpublished Master's thesis, Oklahoma State University, 1964.)

[4] Aaron J. Miller, "A Study of Engineering and Technical Institute Freshman Enrollees and Dropouts in Terms of Selected Intellective and Non-Intellective Factors." (Unpublished doctoral dissertation, Oklahoma State University, 1966.)

[5] H. H. Hyman, "The Values Systems of Different Classes: A Social Psychological Contribution to the Analysis of Stratification." In Reinhard Bendis and Seymore Lipset, eds., *Class, Status and Power.* Glencoe, Illinois: The Free Press, 1957.

(EDITOR'S NOTE: The foregoing article is based on a paper presented by Dr. Miller at a December 1966 meeting of the American Technical Education Association in Denver, Colorado.)

CCST—Cincinnati's Reply to the Need for Post-High-School Technical Education

By Henry J. Sredl

**Supervisor for Industrial Arts,
Cincinnati, Ohio, Public Schools**

REALIZING the growing need for technical education on the post-high-school level, the Cincinnati Public Schools opened the doors to CCST—the Cincinnati Cooperative School of Technology—in September 1966.

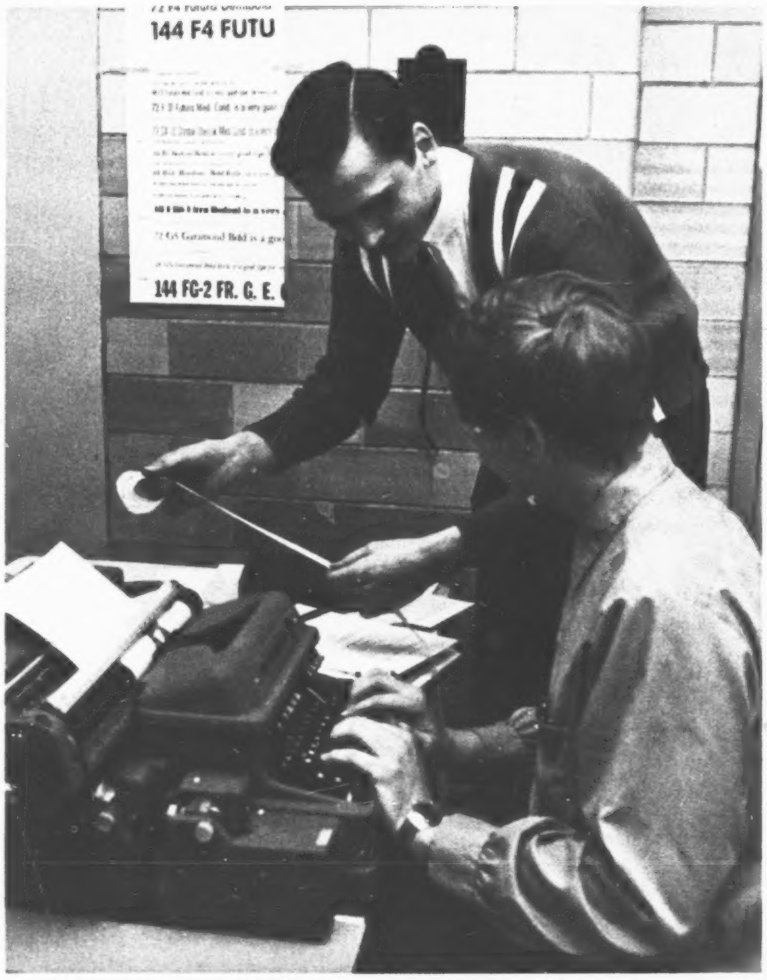
Although the opening represented another step in providing Cincinnati students with the best educational program possible, it by no means signified a program which was new to Cincinnatians in principle. It was in Cincinnati that cooperative education originated at the college level, having been introduced by the University of Cincinnati in 1907. Three years later, in 1910, Cincinnati's Woodward High School became the first high school in the country to offer a "learn-while-earning" program to its pupils. And cooperative education in some form has been a part of the Cincinnati public schools' offerings every year since that time.

CCST, under the leadership of Robert H. Lowe, director, and John E. McGreal, dean of instruction, is the product of teamwork between Cincinnati's educational and industrial leaders and represents an effort to provide quality preparation for employment at a minimal cost. The industrial importance of the Greater Cincinnati area and the consequential need for technical employes can be appreciated when it is realized that approximately 1,800 manufacturing firms are listed in the Cincinnati Chamber of Commerce directory. Together these firms produce 317 categories of products. The Greater Cincinnati area has a population of over one million people and includes parts of Indiana, Kentucky, and southwestern Ohio.

After spending many months discussing employment opportunities and needs with personnel from local business and industry, school administrators established advisory committees to provide guidance in the identification of curriculum areas. Four areas of study were identified as most important to Cincinnati and the surrounding community. This identification resulted in the following programs of study: business data-processing technology, mechanical-design technology, graphic-communications technology, and sales-marketing technology.

Enrolment for the school year 1966-67 reached 120 students. Present plans call for a maximum enrolment of 200 students, with each curriculum area limited to 50 students.

The admission requirements are set to provide high-school graduates not presently enrolled in some



The photo above spotlights a phase of the training in new phototypesetting techniques coming under CCST's graphic-communications program.

program of higher education the opportunity to obtain a technical education. There are four specific requirements for admission: (1) Each student must have been graduated in the upper two-thirds of his class or must show equivalent standing through aptitude and achievement tests; (2) each student must provide satisfactory recommendations; (3) each student must score satisfactorily on any required entrance examination; and (4) each student must be physically fit to accept employment in the selected field. On completion of a program of study, the student receives a Certificate of Proficiency in the major area of study.

All programs of study are two years in length and are designed to prepare individuals for immediate employment in technical positions related to one of the four programs. While the programs are not primarily designed to prepare students for professional studies in areas such as engineering, or to provide a means by which they may earn credit for immediate transfer toward a baccalaureate degree, exceptional students who may wish to advance themselves professionally may have credits transferred to four-year degree programs.

Each year of study is divided into five 10-week terms. Four of these terms are scheduled into the existing academic year while the fifth is scheduled as

The course outline below, one of four career programs at the Cincinnati Cooperative School of Technology, points up how on-the-job training is merged with classroom instruction.

GRAPHIC-COMMUNICATIONS TECHNOLOGY

	First Year	Cl.	Lab.	Cr.
First Term	Communication Skills I	5		4
	Economics I	2-1/2		2
	Layout and Design	2-1/2		2
	Mathematics	5		4
	Typography	5	5	6
		20	5	18
Second Term	Cooperative Employment Program			10
Third Term	Communication Skills II	5		4
	Economics II	2-1/2		2
	Printing Science (Chem.) I	5		4
	Proofreading & Copy Prep.	2-1/2		2
	Machine Composition	5	5	6
		20	5	18
Fourth Term	Cooperative Employment Program			10
Fifth Term	Communication Skills III	5		4
	Printing Science II	5		4
	Graphic Arts Processes	2-1/2		2
	Electronic Processes	2-1/2		2
	Cold Type Processes	5	5	6
		20	5	18

	Second Year	Cl.	Lab.	Cr.
Sixth Term	Cooperative Employment Program			10
Seventh Term	Technical Writing	2-1/2		2
	Business Law I	5		4
	Accounting I	5		4
	Survey of Graphic Comm.	2-1/2		2
	Press Work	5	5	6
		20	5	18
Eighth Term	Cooperative Employment Program			10
Ninth Term	Survey of Graphic Comm.	2-1/2		2
	Effective Speaking	2-1/2		2
	Business Law II	5		4
	Printing Cost Accounting	5		4
	Offset Press Operation	5	7-1/2	7
		20	7-1/2	19
Tenth Term	Human Behavior	2-1/2		2
	Estimating	5		4
	Bindery Methods & Procedures	5		4
	Photolithography	7-1/2	7-1/2	9
		20	7-1/2	19

a 10-week summer term. Each term includes 45 teaching days and two examination days. Students must attend all 10 terms during their two-year enrolment. The student body is paired and, for any given 10-week period, half of the students are devoting their full time to classroom studies while the remaining half are working on a cooperative job. Unlike many cooperative schools, co-oping at CCST begins during the first year for all students. In fact, some students spend 10 weeks on the job before attending their first class. While the beginning jobs do not require a great deal of skill or experience, all jobs are related to the student's major field of study. Those students attending classes spend approximately 25 to 30 hours in classes and laboratories and 10 to 20 hours in outside preparation.

There is a great deal of coordination between CCST and the employers of students. Functioning advisory committees provide continuing direction for the program and a direct link between industry and the school. In addition, telephone conferences between CCST staff members and employers insure close coordination. These conferences generally pertain to situations requiring immediate attention and usually center on student-employer situations.

Because of the demand for workers with CCST-type experiences, there is the ever-present temptation for students to obtain a full-time position before completing their two years of study. To minimize such hiring, all participating employers are asked to adhere to a policy which does not allow full-time employment of students until termination of their CCST preparation. While most of the employing companies adhere to this policy, it is impossible to make such a policy 100-percent effective.

With the exception of those students enrolled in the data-processing area, placement is not difficult. Problems in placing data-processing students appear to be the result of fewer openings in this field and the higher academic background required for such openings. Changing co-op positions is not permitted once a student has been satisfactorily placed.

CCST is presently housed in Courter Technical High School, a $7 million facility built in 1953. While Courter Technical High School provides an excellent setting for the program with its fine equipment, a number of problems arise as a result of housing secondary and post-secondary students in the same building—with the scheduling of available equipment being the major difficulty.

Two-thirds of CCST's operational costs come from an appropriation under NDEA Title VIII. The remaining operating expenses are derived from student tuition. Capital equipment is financed with funds obtained from the technical-vocational section of the Ohio State Department of Education. More than $250,000 is invested in the data-processing laboratory alone, which is complete with a modern computer.

Although it is a young school, traditions are already being established. Among other activities, the graphic-communications students publish a CCST magazine, *The Technician.* School colors and emblem are being determined. But most important of all, CCST is moving toward the realization of its founders' goal—to provide an economical two-year program of studies for students seeking jobs as technicians.

In CCST's data-processing program, students have access to an inventory of modern equipment valued at approximately $250,000.

Computer-Assisted Instruction for Technical Education

By David A. Gilman

**Computer-Assisted Instruction Laboratory,
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TECHNICAL EDUCATION faces many problems, some of which are due to the changing character of our society. In certain areas of technology, the rapidity of technical and scientific advances has become so great that it is literally impossible to create curriculums for vocational-technical education that are *not obsolete* by the time they are taught in the schools. The extensive training required for employment in many technical occupations is imposing a great burden on existing programs in vocational and technical education. The severe shortage of curriculum experts and teaching personnel has been a traditional problem throughout the national scene.

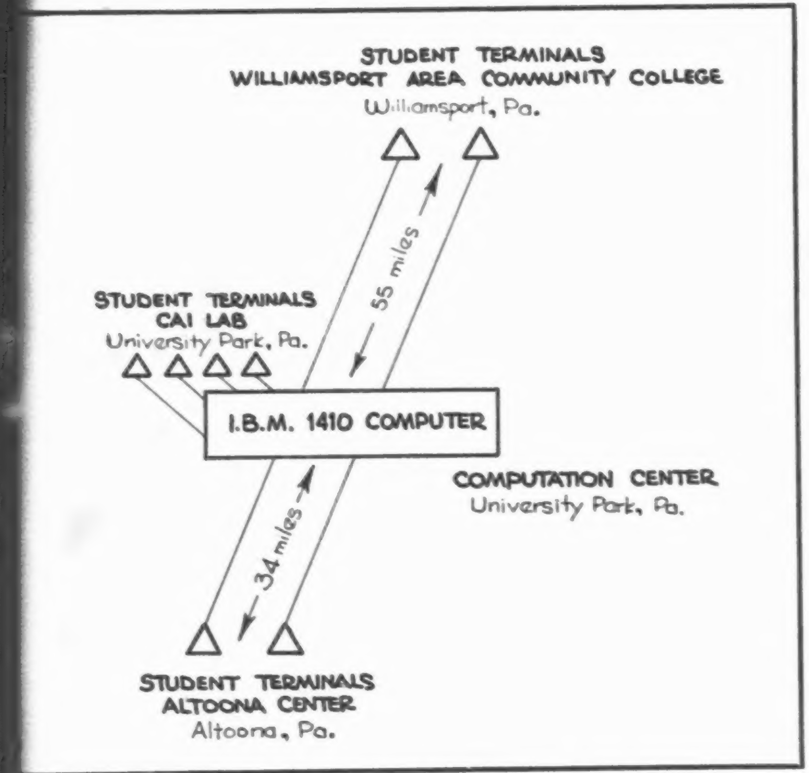
A research and development project now under way at Pennsylvania State University is attempting to solve these and other problems in vocational-technical education. The purpose of the project (supported in part by the Bureau of Research, U. S. Office of Education) is to prepare course material in the three core areas—technical mathematics, communications skills, and engineering science—suitable for youth and adults in the first two years of post-high-school technical education. These materials are presented to students at a typewriter terminal with an audiovisual display unit controlled by a computer.

What Is Computer-Assisted Instruction?

Computer-assisted instruction (CAI) is, in reality, instruction prepared by a human teacher for presentation under computer control. Experienced teachers prepare materials for a teaching program. The student receives instruction by means of slides, tape messages, and typed information. Then, questions and problems are typed and the student responds by typing an individualized answer. The student's responses to questions determine how the instruction will progress. Students who do not fully understand the material are branched to remedial instruction, and thus avoid repetition of old material.

Computer-assisted instruction enables each student to have a device which provides private specialized tutoring. CAI has the potential to accelerate the learning process by avoiding needless repetition of drill after the student has mastered it. It can also be used to diagnose a student's problems and to provide appropriate remedial measures.

CAI differs from programed texts in that the



This diagram shows schematically the computer center and its service areas. The instructor goes to the computation center, types up a new program or revises an old one, and is ready to make contact with students in the several schools which are hooked up to the center. The computer described in this article can accommodate eight remote teaching terminals, any five of which may operate at the same time.

student's responses are evaluated against anticipated answers stored in the memory of the computer. Since the correct answers are stored in the computer, the student cannot look up the answer and he cannot proceed in the program until he demonstrates that he understands the material.

Some programed texts contain branching programs. These include multiple-choice questions and instructions to turn to a certain page. CAI, as presently developed at Penn State, does not present alternatives to the student, but rather requires that the student construct his own response to each question. The computer compares the student's response with a number of stored possible answers. Correct answers are accepted, the student is provided with encouragement, and is presented with new instruction. When the student gives an incorrect answer, the computer presents a diagnostic comment and branches the student to remedial instruction.

The computer can be programed to present material on the basis of the student's response history or on the basis of other relevant information, such as response time, scores on achievement tests, error rate, or amount of time spent on instruction. Combinations of these criterions may also be used.

CAI offers several potential improvements over the so-called teaching machines. Most teaching machines are merely mechanisms for the presentation of programed texts. In most cases, these devices are used to eliminate page turning or to eliminate the possibility that the student might omit some of the instruction. The instruction which these machines presents is little different from that presented in a programed text. CAI, however, provides greater flexibility in the presentation of material, utilizes audiovisual techniques, evaluates student responses, keeps detailed records of the student's progress, and in a sense, tailors the instructional sequence to each student.

Advantages for Technical Students

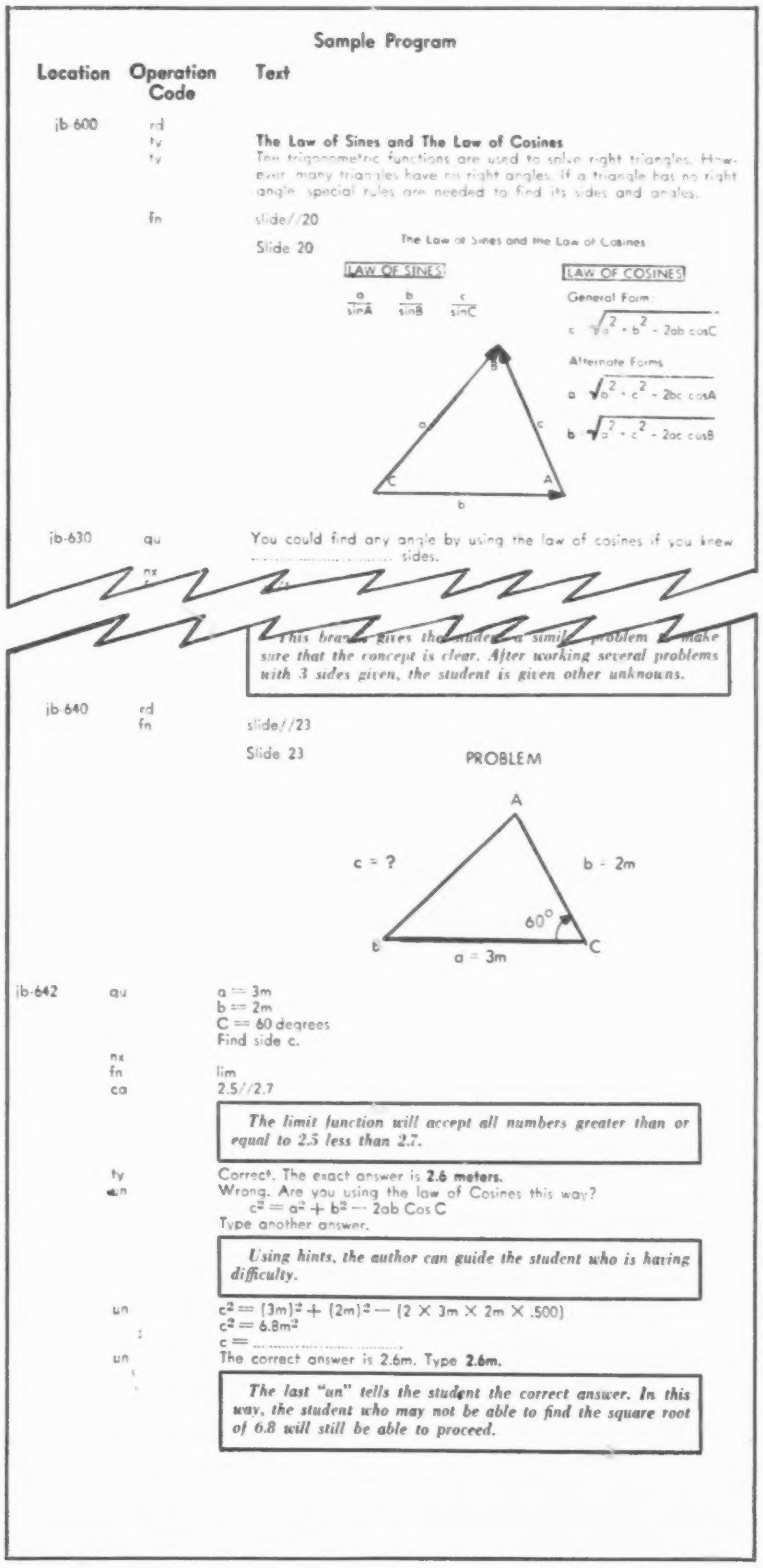
There are a number of reasons why CAI may be advantageous for technical students. Potentially, it permits an efficient use of expensively and highly trained teachers. An instructor may prepare a program which is then stored in the computer. Many students at several locations may receive instruction through a program prepared by an experienced teacher. A substantial increase in the student-to-teacher ratio is achieved, without providing additional work for the teacher.

Computer-assisted instruction makes possible an acceleration and individualization of instruction which

Students at the various terminals progress at their own speeds, receiving special remedial aid when necessary, or enrichment activity when the situation calls for it.

has often been desired in educational theory, but rarely achieved in practice. The computer reacts to features of the student's performance, presents appropriate remedial instruction when a student is not succeeding, and presents accelerated material when a student is insufficiently challenged.

Another factor which assists the student is the gaming interaction between the student and the machine. Here, the role of the machine is that of an opponent with which the student interacts, just as he interacts with problems in laboratories and real situations.


The Law of Sines and the Law of Cosines
LAW OF SINES
a/sinA b/sinB c/sinC
LAW OF COSINES
General Form:
c = √(a² + b² - 2ab cosC)
Alternate Forms
a = √(b² + c² - 2bc cosA)
b = √(a² + c² - 2ac cosB)
A
B
C
a
b
c
PROBLEM
A
c = ?
b = 2m
60°
B
C
a = 3m

Sample Program

```
Location  Operation  Text
          Code

ib-600    rd
          ty         The Law of Sines and The Law of Cosines
          ty         The trigonometric functions are used to solve right triangles. How-
                     ever, many triangles have no right angles. If a triangle has no right
                     angle, special rules are needed to find its sides and angles.
          fn         slide//20
                     Slide 20
ib-630    qu         You could find any angle by using the law of cosines if you knew
                     ........................ sides.
          nx
```

This bra[illegible] gives the[illegible] a simil[illegible] problem [illegible] make sure that the concept is clear. After working several problems with 3 sides given, the student is given other unknowns.

```
ib-640    rd
          fn         slide//23
                     Slide 23
ib-642    qu         a = 3m
                     b = 2m
                     C = 60 degrees
                     Find side c.
          nx
          fn         lim
          ca         2.5//2.7
```

The limit function will accept all numbers greater than or equal to 2.5 less than 2.7.

```
          ty         Correct. The exact answer is 2.6 meters.
          un         Wrong. Are you using the law of Cosines this way?
                         c^2 = a^2 + b^2 — 2ab Cos C
                     Type another answer.
```

Using hints, the author can guide the student who is having difficulty.

```
          un         c^2 = (3m)^2 + (2m)^2 — (2 X 3m X 2m X .500)
                     c^2 = 6.8m^2
                     c = ........................
          un         The correct answer is 2.6m. Type 2.6m.
```

The last "un" tells the student the correct answer. In this way, the student who may not be able to find the square root of 6.8 will still be able to proceed.

An instructor may update a curriculum which has been programed for the computer by merely typing the program revisions at the typewriter terminal. Often, a complete revision process may be accomplished in one day.

It is not necessary that the instructor be skilled in computer programing. A simple programing language is used which most persons can learn after a few hours of instruction. The most important factor in preparing the course material is that the student must be able to comprehend it. The effectiveness of the program depends on the effectiveness of the teacher who prepares it. It is imperative that the instructor use a carefully planned teaching strategy.

In fact, analysis of the data obtained from students who have received instruction may be used to show the instructor ways to improve his program. The teacher has an opportunity to observe the strengths and weaknesses of his presentation.

The computer we are using is an IBM 1410. It can accommodate eight remote teaching terminals, any five of which may operate simultaneously. Costs for operating the system include computer rental, terminal rental, and telephone transmission charges. Present costs are high. However, larger systems accommodating upwards of 40 remote terminals are possible if a larger computer is used. It has been estimated that the cost of operating such a system could be less than one dollar per hour per student.

How CAI Will Serve Education

Since the terminals and audiovisual units are available commercially, it is possible for any institution to use courses programed for computer-assisted instruction. The courses may be used for supplemental on-the-job training, adult retraining programs, and for presenting current techniques and information to employes, as well as for technical-institute instruction.

It is not anticipated that all courses, or that any particular course, would be taught better at a computer terminal than by conventional instruction. However, much of the content of technical and related education can be presented efficiently through CAI. The explorations at Penn State are helping to clarify how the computer will be effective in occupational education.

The American Association of Junior Colleges

THE American Association of Junior Colleges, a non-profit professional education organization, was established in 1920 to represent the interests, stimulate the professional development, and promote the sound growth of America's community and junior colleges. The junior college movement began around the turn of the century when there were approximately eight such institutions with an enrolment of about 100 students. Today there are more than 840 junior colleges with one and one-half million students enrolled. Historians of the two-year college movement describe the junior college as the only type of educational institution which can truly be stamped "Made in the United States of America."

AAJC represents a majority of the country's two-year colleges. Through its Washington offices, the national organization provides a variety of services. Its staff provides consulting and publishing services and the Association, cooperating with many other organizations, seeks solutions to problems in higher education. Among major projects are those dealing with faculty recruitment and preparation, curriculum development, student personnel leadership, and facilities planning.

The junior college generally engages in a three-part program, including the provision of (1) liberal arts and general education courses leading to transfer at the end of two years, (2) continuing education for adults, and (3) semi-professional and technical education programs to prepare young people for jobs. These interests are reflected in the work of the AAJC.

During recent years, the AAJC has concentrated on the somewhat neglected area of programing in the technical fields. Its effort has been to provide leadership and stimulation toward the establishment of technician programs in junior colleges to meet existing and future manpower needs.

The Association has cooperated in a number of important national conferences and has published two major reports on technical education. These include a bulletin, *Technical Education in the Junior College,* written by Norman C. Harris, professor of technical education, Center for the Study of Higher Education, University of Michigan, and *Emphasis: Occupational Education in the Two-Year College,* report of a conference conducted by the Association and the Midwest Technical Education Center in 1966.

Publishing and other efforts presaged a major national effort in occupational and technical education in 1966. With grants from the W. K. Kellogg Foundation totaling nearly one and one-half million dollars, AAJC launched a five-year program in occupational education development. To carry out the program, an executive staff of four occupational education specialists was established. Main emphasis of the program has been to bring together for concerted action and study the many agencies and individuals interested in occupational education problems.

The American Association of Junior Colleges carries on its work from its headquarters at 1315 16th Street, N.W., Washington, D. C. 20036.

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By William N. Fenninger

Executive Secretary

THE American Association of Technical High Schools and Institutes, the forerunner of the American Technical Education Association, Inc., was organized at Cass Technical High School in Detroit in December 1928. Of the first three presidents, one was from Canada.

At the annual meeting in Miami, Florida, in December 1950, in the interest of simplicity and to indicate its broader scope, the name of the Association was changed from the American Association of Technical High Schools and Institutes to the American Technical Education Association.

In 1960 the Regents of the University of the State of New York granted an absolute charter to the American Technical Education Association. The Association is incorporated as a nonprofit educational corporation. Dues are deductible in filing income taxes. The following is taken from the charter: "The purposes for which such corporation is formed are: (*a*) To promote technical education for interested and qualified youth and adults; (*b*) To recommend standards for technical education; and (*c*) To provide an opportunity for an exchange of ideas among persons in the technical education field."

Newsletters.—With the establishment of the new post of executive secretary, which was part of the constitution adopted in Philadelphia in 1957, the Association began the publication of a newsletter. The first of these was issued on June 19, 1958. These *Newsletters* are issued eight times a year. They contain a digest of much of the current literature in the field of technical education, including new textbooks. They are designed to inform ATEA members of the most pertinent and significant events and developments in the field of technical education, both in schools and industry.

Services to Individual Members.—1. An international annual convention is held with outstanding speakers who discuss the problems of technical education and their solution. At least one of these speakers is always from Canada.

2. Copies of the ATEA convention and other addresses are sent to members.

3. The ATEA convention is held in the same city as, and just prior to, the American Vocational Association convention, so that one trip includes both conventions.

4. The significant and informative newsletters provide members with selected information which it is difficult, if not impossible, to obtain without membership.

5. From the great mass of literature on technical education, selected quality publications are sent to all members.

6. Members receive the annual report of the executive secretary and a certified financial statement of the Association.

7. Biennially, a membership directory is furnished to members.

8. The Association provides consulting services on

a wide variety of problems involved in establishing, expanding, and improving technical education.

Institutional Member Service.—Institutional memberships for schools offering technical courses are available to public and private technical institutes, community and junior colleges, technical high schools, and vocational-technical schools. Institutional members receive the services listed above. In addition, they receive selected professional publications which are too expensive to send to individual members or of which the supply is too limited. For example, institutional members were sent a copy of the American Society of Engineering Education report, *Characteristics of Excellence in Engineering Technology Education.* Institutional members also receive copies of ATEA committee reports, such as the progress report of the joint American Technical Education Association—National Association of Industrial Teacher Educators Committee on "The Selection and Education of Teachers of Technical Subjects."

Industrial Member Service.—Industrial membership is open to those companies which employ technicians or are interested in increasing the supply of well-trained technicians, including companies which publish texts for the training of technicians or which make equipment for the training of technicians. Each company which takes out an industrial membership may appoint a representative who is eligible to serve on a School-Industry Coordinating Committee. This Committee gives help to the schools in determining the number of technicians that should be trained for each occupational area and also assists in keeping instruction up-to-date so that technicians of the number and quality needed by industry may be trained.

Plans for Extended Service.—At a meeting of the Trustees in June 1963, it was decided to make a study similar to the one described in the ASEE report, *Characteristics of Excellence in Engineering Technology Education,* but for areas of technician education not included in the ASEE report. The objective is to conduct studies for technician education not only in engineering-related occupations, but also in health, home economics, agriculture, and business.

A preliminary project for which a grant was received from the U. S. Office of Education was completed on July 14, 1966. Five schools were visited by a team of two leaders in the field of two-year, post-high-school technical education. The objective of this project was to develop suitable procedures and appropriate interview forms and data collecting instruments for use at a later date in a large-scale study of selection practices, admission policies, and follow-up activities of 80 or more selected technical education institutions, with a view to identifying current practices that are effective in insuring the education of all prospective technical education students to the maximum of their potential. A proposal to carry out this plan has been submitted to the U. S. Office of Education for funding.

In order that a larger number of teachers may participate in the work of ATEA, more regional conferences are being planned. Four New England Regional Conferences, two Western New York Conferences, a Central Regional, and four Atlantic Regional Conferences have been held. Others are planned.

The American Technical Education Association Inc., will play an increasing role in this field of education. It is one organization which assists in the development of programs designed to increase the supply of well-trained technicians at all levels, whethe the training is given in high school or post-high school, whether given in public schools or private institutions. It fosters cooperation among all agencie offering quality technical programs in all occupational areas.

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Engineers' Council for Professional Development

THE Engineers' Council for Professional Development (ECPD) was founded in 1932 because of the need to improve engineering education and to encourage the development of a professional attitude among young engineers. This is accomplished through such activities as the committees for the accreditation of schools of engineering and of engineering technology, guidance, student development, development of young engineers, and ethics.

Participating bodies in the work of the ECPD are the American Institute of Aeronautics and Astronautics, Inc., American Institute of Chemical Engineers, American Institute of Industrial Engineers, Inc., American Institute of Mining, Metallurgical and Petroleum Engineers, American Society of Civil Engineers, American Society for Engineering Education, The American Society of Mechanical Engineers, The Engineering Institute of Canada, The Institute of Electrical and Electronics Engineers, Inc., the National Council of State Boards of Engineering Examiners, The American Society of Agricultural Engineers, National Institute of Ceramic Engineers (Affiliate), and the National Society of Professional Engineers (Affiliate).

Since its founding, the Council has expanded its operations, one phase being the education of engineering technicians. It has an active Engineering Technology committee.

Headquarters of the ECPD are at 345 East 47th St., New York, New York 10017. W. Scott Hill is executive secretary.

ECPD Accreditation Program for Curriculums Leading to First Degrees in Engineering Technology

Organizations and Objectives

In an effort to serve industry and the engineering profession generally by stimulating the development of a better balanced system of technical education, the Engineers' Council for Professional Development in 1944 appointed a Subcommittee on Technical Institutes within the Council's Education and Accreditation Committee. After several years of study, the subcommittee recommended and subsequently established a basis for accrediting programs of technical-institute type. (The subcommittee became a full standing Engineering Technology Committee in October 1964.) Diversity, both of programs and of types of institutions that offer them, made it difficult but imperative to set some limit on the type of curriculums that would be considered. This was not done in an attempt to enforce unified standards which might tend to force these educational programs into stereotyped patterns. Instead, each curriculum is appraised in terms of quality and accredited in the light of its own purposes, content, and scope.

Instruction in the broad area of technical education that lies between professional engineering on one side and vocational education on the other is conducted by several types of institutions. Curriculums offered by schools in the following categories may be considered by the subcommittee: (1) technical institutes, endowed or publicly supported; (2) junior colleges offering terminal programs; (3) divisions of colleges and universities; (4) proprietary schools, operated by individuals or corporations.

Curriculums to be considered are technological in nature and lie in the post-high-school area. They differ in content and purpose from those of the vocational school on one hand and from those of the engineering college on the other. Curriculums in this field are offered by a variety of institutions and cover a considerable range as to duration and content of subject matter, but have in common the following purposes and characteristics:

1. The purpose is to prepare individuals for various technical positions or lines of activity encompassed within the field of engineering, but the scope of the programs is more limited than that required to prepare a person for a career as a professional engineer.
2. Programs of instruction are essentially technological in nature based on principles of science and include sufficient post-secondary-school mathematics to provide the tools to accomplish the technical objectives of the curriculums.
3. Emphasis is placed on the use of rational processes in the principal fundamental portions of the curriculums that fulfill the stated objectives and purposes.
4. Programs of instruction are briefer, and usually more completely technical in content, than professional curriculums, though they are concerned with the same general fields of industry and engineering. They normally lead to the appropriate Associate Degree. Graduates of such programs are commonly designated as Engineering Technicians.
5. Training for artisanship is not included within the scope of education of technical-institute type.

Definitions

1. *Engineering technology* is that part of the engineering field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the occupational spectrum between the craftsman and the engineer at the end of the spectrum closest to the engineer.

2. An *engineering technician* is one whose education and experience qualify him to work in those areas of engineering which require the application of established scientific and engineering knowledge and methods, combined with technical skills, in the support of engineering or scientific activities toward the accomplishment of engineering objectives.

3. An *engineering technology curriculum* is a planned sequence of college-level courses, usually leading to an Associate Degree, designed to prepare students to work in the field of engineering technology. Some institutions now offer a four-year program leading to a Baccalaureate in Engineering Technology.

General Policies

In view of the diversification of engineering technology curriculums, the types of institutions that offer them, and the undesirability of enforced uniformity, each program or curriculum falling within the boundaries stated below will be recognized in terms of its own purposes, scope, duration, and content. Published lists of such accredited programs, or curriculums, will indicate the name of the curriculum and the institution offering it.

Accredited curriculums shall satisfy the following requirements:

1. *Duration.* Not less than two academic years of full-time residence work beyond the secondary school or the equivalent in part-time work.
2. *Requirements for Admission.* High-school graduation or the equivalent. A high-school transcript indicating graduation or certification of equivalency must be available for all students.
3. *Curriculums.* Technological in nature, employing the application of physical science and the techniques of mathematics to the solution of practical problems, and comprising a prescribed sequence of related courses in a specific field, though not excluding a reasonable amount of elective subject matter.
4. *Instruction.* By accepted class and laboratory methods. Laboratory work shall comprise an important part of each curriculum.
5. *Teaching Staff.* Qualified as to educational training and experience and sufficient in numbers to provide adequate attention to each student.
6. *Educational Institution.* An organized school or a division of an institution devoted to the specific aim of providing technical institute programs; a stable organization having adequate financial support and demonstrated capacity and achievement in the engineering technology field.

The school shall maintain a high standard of ethics in its educational program and in all its dealings with students and prospective students. In its correspondence, published materials, and other public announcements, the statements used shall be frank and factual and shall not be misleading.

7. *Physical Facilities.* Adequate for the purposes of the curriculums offered.

Accrediting Principles and Procedures

Effective October 31, 1965, the Engineering Technology Committee of ECPD considers for accreditation only curriculums offered in an institution of higher learning that is accredited by the regional accrediting association, unless the regional accrediting association does not make provisions for the accreditation of specialized institutions. The Engineering Technology Committee will continue to accredit engineering technology curriculums directly in institutions which because of organizational structure are not eligible for accreditation by the regional association.

Accrediting is conducted in accordance with the following principles and procedures:

1. Individual curriculums are accredited. Separate examinations are conducted for curriculums offered in the evening or in geographically separated branches of an institution. In addition, cooperative programs are examined as independent curriculums.
2. Rigid standards as a basis for accrediting are avoided in order to prevent imposed uniformity and to encourage educational experimentation.
3. Curriculums are appraised on invitation of the institution offering them.
4. Curriculums are accredited on the basis of both qualitative and quantitative criterions which are evaluated through visits by a committee or committees representing Engineers' Council for Professional Development and through data secured from catalogs, other publications, and questionnaires.
5. Qualitative and quantitative criterions include the following:
    - (*a*) Qualifications and experience of members of the faculty as well as the ratio of numbers of faculty to the numbers of students taught.
    - (*b*) Standard and quality of instruction: (1) in technical courses, (2) in basic scientific and other required courses.
    - (*c*) Scholastic work of students.
    - (*d*) Records of graduates in industry.
    - (*e*) Auspices, control, and organization of the institution and of its engineering technology division.
    - (*f*) Curriculums offered and form of certificate or diploma offered.
    - (*g*) Age of the institution and of the individual curriculums.
    - (*h*) Basis of and requirements for admission of students.
    - (*i*) Number of students enrolled: (1) in the institution as a whole and its technical institute division; (2) in the individual curriculums.
    - (*j*) Graduation requirements.
    - (*k*) Teaching staff and teaching loads.
    - (*l*) Physical facilities devoted to technical institute curriculums.
    - (*m*) Finances: investments, expenditures, sources of income.
6. Information supplied by the institution is for confidential use of Engineers' Council for Professional Development and will not be disclosed without the written authorization of the institution concerned.
7. Findings and recommendations of the visiting committee are reviewed in turn by a regional committee, the Engineering Technology Committee, and, finally, by the Board of Directors of the Engineers' Council for Professional Development.
8. Published lists of curriculums include only those that have been accredited. No information is divulged as to curriculums which have been submitted for evaluation and not accredited or as to those which have not been submitted.
9. Published lists of accredited curriculums state the name of the institution and the name of the curriculum accredited.
10. Accreditation of a curriculum is granted for a limited period, not to exceed six years, with reappraisal stipulated at the end of the period. Accreditation is based on conditions as they exist at the time of evaluation and is granted only when conditions are considered as currently meeting minimum overall requirements. If for any reason the future appears precarious, or definite weaknesses exist which should be strengthened, the accreditation will be granted for a shorter period (one to three years). Such precarious conditions include uncertainty as to financial status, uncertainty due to nature of administrative organization, need for additions to or improvements in staff or equipment, a new or changing curriculum, and undue dependence on a single individual.
11. The following statements are the only ones approved by ECPD for use in any public announcement when mention of accreditation is made:

    "An ECPD accredited Engineering Technology curriculum (program)"

    "An ECPD accredited Engineering Technician curriculum (program)"

    If accreditation is withdrawn, the institution should no longer refer to the curriculum as accredited.
12. The Engineering Technology Committee will not recommend for accreditation as a curriculum of engineering technology type any curriculum for which the claim is made that it produces qualified engineers. No curriculum will be approved for accreditation or reaccreditation unless the word *technology* is used as the final noun in the title.
13. It is the province of the Engineering Technology Committee to recommend curriculums that lead to the Associate Degree.

Advisory Service

Incident to the accrediting program but only upon request of recognized officials of an institution, informal advice will be given on matters such as changes in educational policy, organization, curriculums, personnel, and physical facilities.

In order to maintain the accredited list on a dependable and up-to-date basis, curriculums shall be reevaluated at intervals of not more than six years. This shall be by means of a visit by a committee or by means of information collected through questionnaires, or by both, as circumstances require.

Institute for the Certification of Engineering Technicians

THE Institute for the Certification of Engineering Technicians was established by the National Society of Professional Engineers (NSPE) in 1961 as a means of giving proper recognition to qualified engineering technicians and to create an incentive for self-improvement. It is governed by an unpaid Board of Trustees consisting of four professional engineers and four senior engineering technicians.

The Institute is an examining body only. It is not a society to which persons belong. It exists to perform the function of determining the competency of those who voluntarily apply for certification. Technicians who receive certification do not obtain membership in any grade within NSPE (which confines its membership entirely to registered professional engineers). The Institute does no instructional work. It is not in the education business. The Institute does no evaluation of curriculums or institutions, since this is being done by the Engineers' Council for Professional Development, with which a strong liaison has been established.

The Institute certifies qualified technicians in three grades: junior engineering technician, engineering technician, and senior engineering technician. Qualifications for the grades include graduation from an engineering technician program accredited by the Engineers' Council for Professional Development, number of years experience in the field, and endorsement by one or more professional engineers.

Teams comprised of carefully selected professional engineers and senior engineering technicians within various states representing all facets of engineering, have been schooled by the Institute in its policies and certification procedures for the purpose of advising and making recommendations to the Institute Board in its final review and evaluation of applications. The Institute also maintains an advisory council comprised of representatives from nationally recognized engineering societies.

As of July 1967, more than 10,000 applications had been received and approximately 9,500 certificates issued since its inception. About 50 percent of the total have been issued in the engineering technician grade and approximately 25 percent each in the higher and lower grades of senior and junior. A total of 304 technicians have, through advancement and self-improvement, been upgraded to higher grades of certification.

The idea of certification has met with the approval of individual technicians and engineers, engineering societies, government agencies, and industrial organizations. Many believe it promises to become one of the most important developments in the field of technology that has taken place so far.

The Institute operates with a paid executive secretary and office staff located at 2029 K Street, N.W., Washington, D. C. This office provides literature and information and will assist any individual, institution, or employer who is interested in the certification program. Bernard L. Riggs is executive secretary.

MINIMUM REQUIREMENTS FOR CERTIFICATION

Grade	Age	Education and/or Experience	Qualifications
Senior Engineering Technician	No maximum, 35 years minimum	(a) Graduation from an [1]ECPD, accredited program in engineering technology plus 15 years engineering technician experience under the direction of a professional engineer or equivalent, or (b) 17 years engineering technician experience under the direction of a professional engineer or equivalent.	Demonstrated high qualifications. Knowledge of detailed technical character. Responsible performance. [3]Endorsements from three professional engineers or equivalents.
Engineering Technician	No maximum, 25 years minimum	(a) Graduation from an [1]ECPD, accredited program in engineering technology plus 5 years engineering technician experience under the direction of a professional engineer or equivalent, or (b) 7 years engineering technician experience under the direction of a professional engineer or equivalent.	Demonstrated technical knowledge plus satisfactory completion of an [2]examination. [3]Endorsements from two professional engineers or equivalents.
Junior Engineering Technician	No maximum No minimum	(a) Graduation from an [1]ECPD, accredited program in engineering technology, or (b) two years engineering technician experience under direction of a professional engineer or equivalent.	Elementary technical ability. [3]Endorsement from one professional engineer, or equivalent.

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[1] ECPD - Engineers Council for Professional Development.

[2] An examination may be waived at the discretion of the Board.

[3] The Board accepts references from persons with B.S. degrees in engineering or science. The Board also accepts any bona fide supervisor who is qualified and recognized, such as, a scientist, physicist, biologist or physician whose work is mathematically based.

INSTITUTE FOR THE CERTIFICATION OF ENGINEERING TECHNICIANS

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National Association of Trade and Technical Schools

THE National Association of Trade and Technical Schools is a voluntary association of private schools. Its primary purpose is to establish and maintain high educational standards and ethical business practices in the private trade and technical school field.

The Association was organized in Chicago on March 19, 1965, and operated on an interim basis until the first official annual meeting was held in Chicago on June 18 and 19 that year. The constitution and bylaws were adopted and officers elected at the annual meeting. The Association was incorporated in the District of Columbia on July 16, 1965.

The purposes of the Association, as outlined in its constitution, are: to promote the interests and general welfare of the private and technical school field; to promote high educational standards and ethical business practices; to cooperate with local, state, and federal authorities and with business, commercial, and industrial groups in the maintenance of standards and sound policies; to develop a national accreditation program on the basis of established federal standards; to conduct and promote research for the advancement of the field; to encourage and sponsor the development of local, state, and regional private trade and technical school organizations; to cooperate with local, state, regional, and national associations in development and exchange of information helpful to the advancement of the field; to engage in publicity and public relations activities for the purpose of increasing public interest and sound understanding of the services offered by the field, and to engage in other activities (consistent with the public interest and the interest of the trade and technical school field) as may be necessary and proper for the accomplishment of these objectives.

The first task of the Association has been the development of a national accrediting program of the private trade and technical schools, designed to provide a means of assisting good private trade and technical schools to become better schools, of assuring the public of high quality trade and technical education offered by private schools, and of setting standards to which all private trade and technical schools can aspire.

An accrediting commission has been established, consisting of nine members—five representatives of the trade and technical schools and four outstanding persons from outside the private school field. The accrediting commission has the final authority to determine whether or not individual schools meet the standards set by the Association.

Up through September 1966 schools could apply for regular membership in the Association without accreditation. After September 1966, nonmember schools must first become accredited before being accepted as members. Members of the N.A.T.T.S. have until September 30, 1968, to become accredited. Members not accredited by that date will be dropped from membership. Accreditation, however, may be obtained by any school, member or nonmember.

The standards for accreditation, as developed by the Research and Educational Standards Committee and the Business Standards Committee, working under the guidance of the Accrediting Committee and the N.A.T.T.S. Board of Directors, cover the following characteristics: educational objectives, courses and curriculums, faculty, student services, student success and achievement, admission policies and practices, tuition policies, student recruitment, physical facilities, management, and self-improvement program.

In addition to its work on accreditation, the N.A.T.T.S. has made a start in distributing news releases and other publicity of interest and importance to trade and technical schools. It has worked closely with members of Congress on proposed legislation in the trade and technical field. It has made plans for research projects. It has compiled a list of approximately 1,000 private trade and technical schools. And it is making plans for intensive workshops and seminars on major problems in the field. A professional journal to serve the field is also planned.

The headquarters for the National Association of Trade and Technical Schools is at 2020 F Street, N.W., Suite 607, Washington, D.C. 20006. William Goddard is executive director.

National Association of Trade and Technical Schools

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National Council of Technical Schools

THE National Council of Technical Schools (NCTS) is a group of private independent technical schools offering terminal courses that prepare graduates for immediate gainful employment in positions supplementary to those of professional engineering, according to its official statement. Graduates are designated as "engineering technicians" to distinguish them from medical technicians, industrial technicians, etc.

The National Council of Technical Schools acts as an approval agency for proprietary schools offering courses in the semiprofessional engineering technical field. For a school to gain approval and admission, all conditions set forth in the Council's "Code of Minimum Standards of Practice for Technical Institutes" must be met.

The NCTS is comprised entirely of schools deriving their financial support from student tuition and/or endowments. Many member schools are chartered as nonprofit and none are supported from public tax funds.

The organization was formed in 1944 for the purpose of promoting sound educational, ethical, and business standards in the area of engineering technology education. A minimum of five years of continuous operation is required for admission to membership and every NCTS school must undergo reinspection of its courses each four years.

Headquarters of the National Council of Technical Schools are located at 1507 M Street, N.W., Washington, D. C. 20005.

Technical Institute Administrative Council and Technical Institute Division, American Society for Engineering Education

THE American Society for Engineering Education has had a vital interest in the technical-institute type of higher education for over a quarter of a century. The early interest of the Society in the field of engineering technology led to the organization of the Technical Institute Division which throughout the years has proven to be a significant factor in the development of the technical-institute type of program. In keeping with the technological explosion, education in engineering technology more recently became involved in such a broad area of activity that it no longer was possible to deal properly with academic and administrative details within the Division. The American Society for Engineering Education, therefore, established the Technical Institute Administrative Council for the purpose of dealing primarily with administrative matters and gave the Chairman of the Council the status of Vice-President of the American Society for Engineering Education.

The purposes of the Technical Institute Administrative Council are:

- To work toward the improvement of technical-institute areas of higher education and the development of a greater recognition of the value of professional accreditation;
- To bring about cooperation between engineering colleges and technical institutes in serving better the total needs for engineering education at all levels;
- To cooperate with governmental agencies in those areas where technical-institute education relates to public safety and welfare;
- To bring about better understanding and cooperation between technical institutes and engineering societies, trade and professional organizations, and industrial groups;
- To work toward the development of public understanding of technical-institute education through cooperation with schools, guidance organizations, and other informational groups;
- To act as an instrument of inquiry into matters that relate to the effective administration of technical institutes and programs in engineering technology; and
- To provide a means for dealing with all administrative problems involving technical institutes and technical-institute education.

The purposes of the Technical Institute Division are:

- To promote and develop technical-institute education as a means of preparing for careers in engineering technology;
- To deal with curriculums, teaching methods, teacher training and development, and the welfare and guidance of the student;
- To provide for the McGraw Award and the Williston Award selections and to assume the responsibility of the presentation of these awards;
- To promote individual memberships in the

American Society for Engineering Education; and

- To arrange programs in the area of engineering technology of interest and value to the individual membership of the Technical Institute Division.

Among the more important activities of the Technical Institute Council and the Division are the awards dinner held each year in conjunction with the meetings of the American Society for Engineering Education. The James H. McGraw Award is made to one who has contributed in an outstanding way to technical-institute education. The Arthur S. Williston Award is given for the contribution of significant writings in the area of technical-institute education. At the annual meeting, the Technical Institute Division presents a varied program of considerable value to those who would be responsible for technical-institute curriculum development and the guidance of students in engineering technology.

The Technical Institute Administrative Council conducts studies and initiates actions having a far-reaching effect on technical-institute education. Manpower studies and surveys are important activities of the Council and have consistently indicated a significant increase in technical-institute enrolments, new students, and graduates. The Technical Institute Administrative Council cooperates very closely with the Engineers' Council for Professional Development, the major recognized accrediting agency for programs leading to the first degree in engineering technology, in evaluation and promotional activities.

TECHNICAL INSTITUTE ADMINISTRATIVE COUNCIL, ASEE

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Federal Government Publications

If a price is shown, the publication is available from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402. If no price is shown, write to the agency for information.

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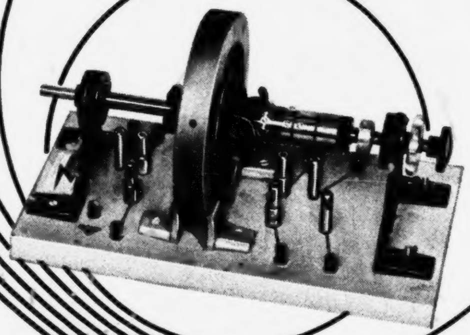

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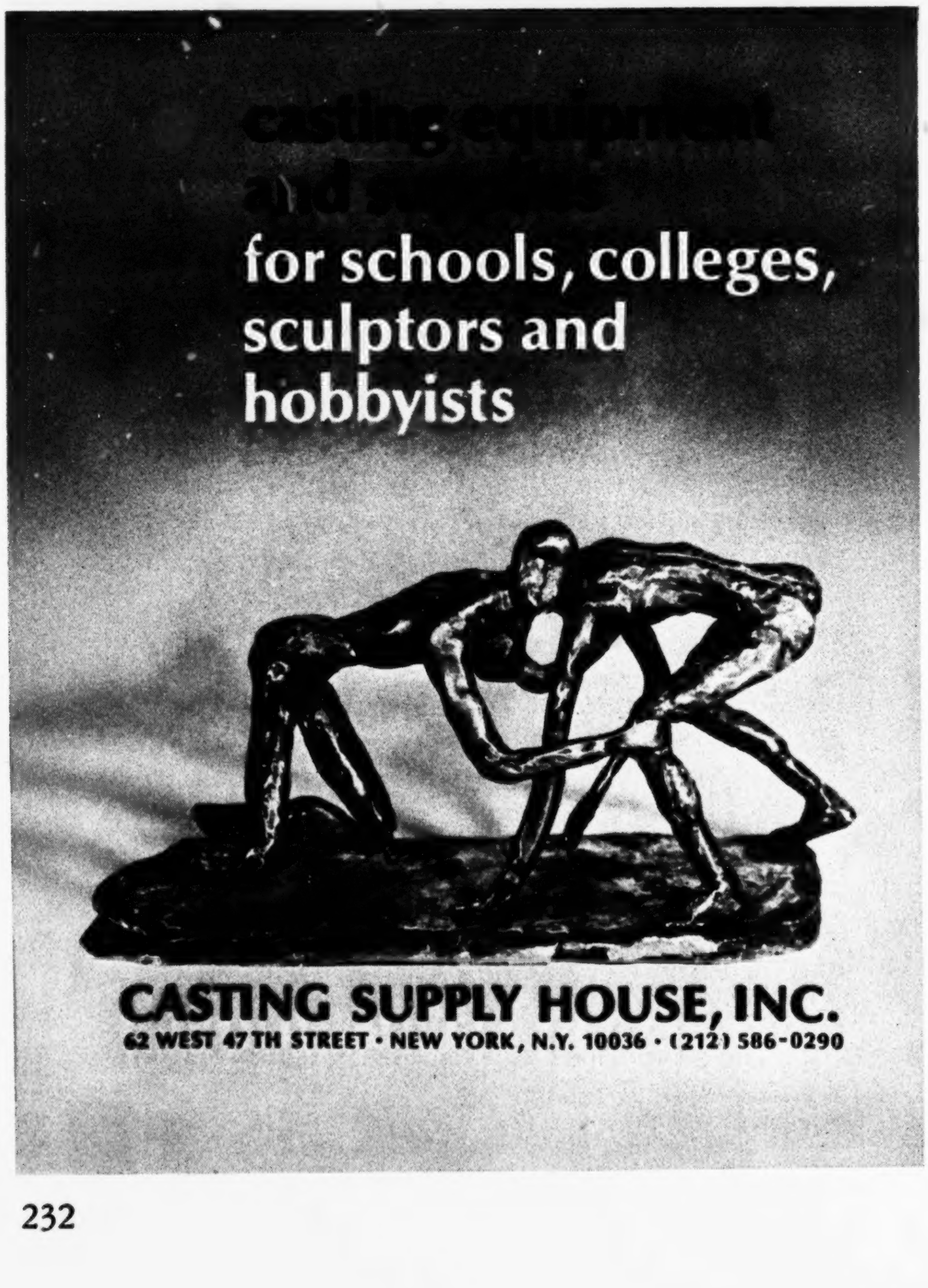
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